The Investment Promotion and Environment Protection Balance in Ethiopia's Floriculture:

The Legal Regime and Global Value Chain

By

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Declaration

I hereby declare that this thesis is my original work. I also confirm that it has not been submitted either in part or in full for any Degree or Diploma to this or any other university.

Elias Nour

SUMMARY

The thesis examines the balance in the objectives of investment promotion in Ethiopia, i.e. the enhancement of *development* and *well-being* in the context of *environmental sustainability.* The flower sector is used for the purpose of thematic focus due to the tension that exists between the benefits in the enhancement of cut flower exports and the corresponding challenges in labour conditions, environmental compliance standards and in the sustainability of the economic benefits. In spite of the Ethiopian legal framework on sustainable development, many economic actors tend to pursue its weaker interpretation which is further debilitated by gaps in the institutional framework. There is thus the need for caveat against delinking investment promotion towards economic development from social wellbeing and environemntal sustainability which in the flower sector requires environmental mainstreaming (EM) and *sustainability impact assessment* (SIA) so that illusive economic benefits would not lead to irreversible environmental harm. It is argued that the contribution of investment promotion pursuits in Ethiopia's flower sector towards sustainable development and rising standards of living depends upon the extent to which the sector moves towards *sustainable floriculture* which is drastically different from flower export boom that arises from unprotected soil and water resources.

Three contradictions permeate the challenges toward sustainable floriculture in Ethiopia. The ownership profile and the marketing niche of flower farms under distress show that domestic-owned farms are the ones that are most severely hit by these challenges. The first contradiction arises from the tension among the three (economic, social and environmental) pillars of sustainable development and the institutional gaps despite laws that protect the environment. The second contradiction relates to the tension between the positive role of technoscience in sectors such as floriculture vis-à-vis its hegemonic features and the potential harm if it is improperly applied in developing countries. The third tension is attributable to the buyer-driven global value chain which requires social and environmental compliance standards in flower growing and meanwhile pushes down the profit margin of flower growers in developing countries like Ethiopia. This not only puts pressure on working conditions and the environment but also renders the economic benefits illusory and unsustainable.

The research is based on sociological and legal inquiries, and also includes case study which involves in-depth interviews and on-site observations. The study, *inter alia*, recommends that hydroponics, integrated pest management and multimodal water sources ought to be encouraged in all new flower farms and future expansion projects. In the absence of such thresholds accompanied by enhanced competitiveness and effective institutional capabilities of regulation and governance, the flower export boom which results from unprotected soil and water resources is economically unsustainable and does not bring about social wellbeing and environmental sustainability.

INTRODUCTION

Ethiopian investment law envisages the promotion of domestic and foreign investment towards which the law provides various incentives. The incentives include income tax exemption for five years, land allocation at modest leasehold rates, exemption of import duties for equipment and supplies, bank loan facilities for a significant amount of the investment cost (which may reach 70% of the investment cost) and others. Various assumptions underlie these incentives. Primarily the incentives envisage the realization of the promises embodied in investment project documents. Secondly, the incentives are meant to attract investment and in effect facilitate the attainment of the objectives embodied in Ethiopia's investment law, i.e. accelerated economic development and rising standards of living.

The promises stated in project documents and the expectations of regulatory entities (that implement the various incentives towards the promotion of investment) envisage job creation, foreign exchange from exports, technological spillovers, enhanced supply of goods and services, and other benefits. These benefits are expected to bring about *development* and *rising standards of living* that are the objectives of investment promotion in Ethiopia. This study examines the balance that the normative and regulatory framework has put in place to encourage investment and ensure environmental protection. It also examines the opportunities and challenges in the attainment of the balance with particular attention to the regulatory framework and the global value chain. The study focuses on floriculture so that the issue can be examined in the context of a specific sector of production where there is a clear interface between the public policy to encourage investment in the sector and the corresponding challenge in environmental protection.

Developing countries encourage investment, and are meanwhile concerned about the sustainability of natural resources. While pursuit of economic development calls for the enhancement of investment, concern for the sustainability of development and protection of the environment requires a legal regime and institutional framework with effective environmental protection schemes.

A legal regime may primarily focus on the encouragement of investment and economic development which might eventually resolve the problem of environment degradation. It can be

argued that economic development, in the Ethiopian context, would ultimately provide better opportunities for environmental protection. On the other hand, one may contend that a legal regime with strong environmental compliance standards is crucial for *sustainable development* because certain aspects of environmental degradation might be irreversible in the absence of proactive prevention. A query can also be forwarded whether the economic benefits that accrue from certain investments would bring about social benefits that exceed the environmental impact involved. There is thus the need to address the issue whether there can be a balance that encourages investment and economic development while ensuring environmental compliance standards, and whether this balance can be attained in the current global value chain.

Research Questions

The research mainly examines the appropriate balance between enhancing investment and protecting the environment towards sustainable development in Ethiopia with a case study on the flower sector. The subsidiary objectives and research questions are:

a) Theoretical analysis of development and improved living standards (well-being) and examination of the relationship and balance between environment and development;
b) Analysis of the methods that can be used in the attainment of the balance between encouraging investment and protecting the environment;
c) Analysis of the role of Ethiopian law in relation to the balance between development and environmental protection with particular focus on the flower sector;
d) The interconnection between factors (such as population growth, technoscience, etc..) and pursuits towards balancing development, well-being and ecosystem sustainability;
e) The impact of the buyer-driven global value chain (in floriculture) on pursuits to achieve sustainable development and rising standards of living;
f) Lessons that can be drawn from the global value chain, the comparative experience of major flower exporters from the Global South and from the case study.

The buyer-driven global value chain in floriculture (which involves imported input supply, flower production, post-harvest preservation, air transport to distant markets, auction or direct wholesale in foreign markets, retail and consumption) is examined in light of the opportunities it offers and the challenges it poses in Ethiopia's flower sector. Moreover, some inquiry is made on the competitive advantage of the sector with a view to drawing lessons thereof. The thematic focus on the flower sector is chosen owing to public concern about its environmental impact and

the potential economic benefits. The research questions have led to several subsidiary questions which are discussed and examined in the study.

Theoretical Framework

The theoretical framework in Chapters 1 to 3 involves two dimensions of the investment-environment nexus. First, it explores the reason *WHY* there needs to be a balance between encouraging investment and protecting the environment. And secondly, it examines *HOW* the balance can possibly be achieved. With regard to the first dimension, Chapters 1 and 2 respectively deal with the two objectives of investment promotion in Ethiopia, i.e. '*development*' and *well-being*. Chapter 3 addresses the second dimension of the theoretical framework and it deals with various methods, theorems and approaches that can be used in the determination of the balance.

The theoretical framework of the study is informed by the economic, human wellbeing and environemntal dimensions of sustainable development (as embodied in Ethiopian law) and uses them as signposts in the analysis of the development-environment balance. The discussion on the economic dimension of development, *inter alia*, includes the discourse on the essence of development and progress (Cowen & Shelton: 1996, Gasper: 2005, Sklair:1970, Jackson: 2009, Cox: 2000, Kant:1784) and the evolution of post-World War II doctrines of development (Thorbeke: 2007). The theoretical framework highlights various theories of development that have influenced Ethiopia's development pursuits since the 1950's and 1960's such as the *modernization* theory (Rostow: 1991, Kaldor: 1966), the *structuralist* model and *dependency* theory (Frank: 1967), the *human development* model (Schultz: 1979), the role of institutions in development (North: 1991, Chang: 2011), *neo-liberal* theories marked by their feature of 'deregulation' (Chang: 2003), and neo-liberal conceptions of governance and poverty-reduction (Craig and Porter: 2003). Some discussion is also made on post-modern critique against development thinking (Escobar: 1992, Pietrse: 2010, Cox: 2000) and the developmental state doctrine (Woo-Cumings: 1999, Evans: 1989).

In the human well-being dimension of development, issues such as minimum standards in real income and material conditions (Pigou: 1932), Sen's concepts of material well-being, functionings and capabilities as elements of standard of living (Sen:1985), Pogge's views on severe poverty (Pogge: 2007) and other notions inform the conceptual framework. A brief

analysis is made on the relationship between economic 'growth' and its social utility of bringing about human 'wellbeing'. This discussion is informed by various conceptions of 'wellbeing' (Dauvergne: 2008, Sklair: 1994, Sklair: 1997, Wilkinson & Picket: 2009, Clark: 2007, Seligman: 2002, Kahneman *et al*: 1999, Nettle: 2005, Csikszentmihalyi: 1975, and others). The demographic challenges in the context of developing countries and their impact on standards of living and social wellbeing are also highlighted. (Hayami & Godo: 2005, Gould: 2009, Meade; 1967).

The conceptual framework on the environmental dimensions of sustainable development highlights the root causes of environmental challenges in the process of development (Hunter *et al*: 2007, Ehrlich & Ehrlich: 2008). The discourse regarding limits to exploitation of natural resources (Meadows: 1972) to satisfy endless wants of conspicuous consumerism *vis-à-vis* the technological solution model (Kahn: 1976) is highlighted in the course of discussing contending views.

The theoretical framework on the balance between the attainment of economic benefits and environmental compliance discusses the key factors in national competitiveness as investment destination (World Development Forum: 2012) and the factors that attract investment (Zarsky: 2005, Thorbecke: 2007, Dam: 2006, Bellak & Leibrecht: 2009, Coperland & Taylor: 2004, Copeland & Gulati: 2006) to show that weak environmental compliance is not among the core factors in the attraction of investors with corporate social responsibility.

The dilemma between accepting the risk of environmental degradation in favour of investment promotion *vis-à-vis* the risk of forfeiting economic opportunities in favour of environmental protection is part of the theoretical framework of the study (Beck: 1992, Sunstein: 2005, Adams: 2009, Pearce: 1994, Gardner: 2008, Furelli: 2002). The discussion on risks, opportunities and cost-benefit analysis in the determination of the balance between enhancement of investment and the sustainability of the environment is informed by theorems such as the Coase theorem (Coase:1960) and the Kaldor-Hicks efficiency criterion (Hackett: 2006) which deal with '*efficient solution*' to competing interests. A caveat in this regard is suggested against attempting to make monetary valuations of environmental benefits and cost (Bowers: 1998, Sagoff: 2004) because the *use value* of various environmental effects (such as air, water and soil) cannot be expressed in monetary terms thereby necessitating environmental mainstreaming (Dalal-Clayton and Bass: 2009), Environmental Impact Assessment (EIA) and Sustainability

Impact Assessment (SIA) rather than cost-benefit analysis (CBA) as a method of balancing economic development and environmental protection.

Environmental mainstreaming and sustainability impact assessment in floriculture inevitably involve analysis of the buyer-driven commodity chain and the global value chain (Gereffi: 1994, 2005) because "local, national, regional and global institutions, policies and factors influence each stage in the chain" (Paliwala: 2004). This is essential because the main leverage in the determination of price in buyer-driven chains is "exercised by retailers and marketers at the distribution and retail end of the chain (Gereffi: 1999) thereby denying the freedom of choice assumed in free markets (Chang: 2010) to the production strand of the value chain.

Although the conceptual framework is mainly addressed in Chapters 1, 2 and 3 of the study, the notion and models of competitiveness highlighted in Chapter 7 (Porter: 1990, Moon *et al*: 1998, Cho & Moon, 2000) inform the inquiry into the competitiveness of Ethiopia's flower sector and the challenges thereof. The gaps between the scientific and technological capacities envisaged in the flower industry vis-à-vis the Ethiopian setting and the hegemony attached to technoscience (Baxi: 2007, Rajan: 2006) have also informed the last chapter.

Methodology and Methods

The research involves *theoretical* and *legal* issues and their application in the Ethiopian context. It also involves *empirical* issues raised in the case study. These issues involve a combination of sociological and legal inquiries at the wider level of existing discourse, and then specifically in the Ethiopian setting. The theoretical and legal inquiries are ultimately followed by a more concrete examination in the context of a case study. Essentially, the research tasks have involved the following:

a) Analysis of theoretical issues;
b) Analysis of laws on investment, pollution control, environmental impact assessment, and codes of practice in flower growing;
c) Analysis of codes of practice in floriculture at the global level;
d) Observation of six flower farms;
e) Interviews and discussion with farm managers and experts at six flower farms (§8.1);
f) Form that is developed to gather data on issues that are relevant to the case study and filled by farm managers (Annex 1).

g) Interviews and discussion with office holders and experts at:

- Confederation of Ethiopian Trade Unions
- Development Bank of Ethiopia
- Environmental Protection Authority
- Ethiopian Airlines
- Ethiopian Horticultural Development Agency
- Ethiopian Horticulture Producer Exporters Association
- Ethiopian Investment Agency
- National Bank of Ethiopia
- Oromia Environmental Protection Agency, and
- Oromia Investment Commission.

The fieldwork mainly involved in-depth interviews and observations. The rationale of the observations at the flower farms was to have direct knowledge and understanding about the flower growing process, post-harvest handling, opportunities in economic performance and challenges in balancing economic benefits with social well-being and environmental sustainability. The in-depth interviews aimed at the core themes relevant to the study. The findings of this study are mainly based on the legal analysis and the fieldwork.

Content Overview

The study has eight chapters which can be regarded as four major parts. The first part of the study (Chapters 1 and 2) relates to the conceptual framework for the objectives of investment promotion in Ethiopia, i.e. development and rising standards of living (wellbeing) in the context of environmental sustainability. Chapter 1 addresses the notion and dimensions of 'development' and explores the various doctrines that have influenced Ethiopia's pursuit of development during the last six decades.

Chapter 2 examines the second objective of investment promotion i.e. rising standards of living and well-being. The pursuit in developing countries to raise standards of living faces two challenges: *population growth* unmatched by economic development which puts pressure on standards of living, and secondly, rising *consumerism* which steadily pushes up imports. These challenges exert pressures on the sustainability of the environment and as a result render

economic benefits of various investments transient and unsustainable. The study relates these issues with the economic activities and environmental concerns in Ethiopia's flower industry.

Development, wellbeing and environmental protection need to have a balance and this constitutes the theme of the second part of this study. To this end, Chapters 3 and 4 deal with the factors, methods and the legal framework towards the balance. Chapter 3 underlines the role of environmental mainstreaming and sustainability impact assessment in the balance, and Chapter 4 discusses the laws on environmental compliance and problems in their implementation.

As the flower sector in all developing countries (including Ethiopia) is export-oriented and because the global value chain is buyer-driven, the world flower market and the global value chain are addressed in Chapter 5. This is followed by the comparative experience of three leading flower exporters from the Global South, i.e. Colombia, Ecuador and Kenya (Chapter 6) with particular reference to their economic performance and the challenges in balancing economic benefits with social wellbeing and environmental sustainability. These two chapters constitute the third part of the study which applies the themes of the study to the flower sector.

Ethiopia's flower sector is briefly touched upon in the first three chapters of the thesis (under Sections 1.3.8, 1.3.9, 2.1.6, 2.2.4, 3.5.1) and it is the sole thematic focus in Chapter 4 which deals with the legal framework. Ethiopia's flower sector is given specific focus in Chapters 7 and 8 which constitute the last part of the study. Chapter 7 deals with the profile, value chain and competitiveness of Ethiopia's flower sector, and the last chapter focuses on case study conducted at six flower farms.

The lessons obtained during the case study include two good practices in the production tier, namely flower growing through non-soil medium (hydroponics) and biological pest control by using predatory mites. The last chapter also indicates the technoscientific challenges in enhancing these good practices in the farms that are using them and in scaling them up in other flower farms. The technoscientifc challenges also relate to the enhancement of environmental compliance standards such as the diversification of water sources in light of the good practices of countries such as Israel. The case study further shows the benefits of the vertical integration of production and marketing in one of the farms visited.

The study arrives at six conclusions. First, it underlines the need for semantic caveat regarding the essence of development and investment. Secondly, it notes the need for

environmental mainstreaming (EM) and *sustainability impact assessment* (SIA). The third and fourth conclusions indicate the illusive economic and social benefits of the flower sector and the corresponding environmental risk. The last two conclusions of the study hold that investments in flower growing that can bring about social wellbeing and environmental sustainability are hardly feasible under the current cost and profit structure in the global value chain, and further note that the flower export boom in developing countries can be ultimately unsustainable unless the production boom by using unprotected soil and water resources gives way to sustainable floriculture.

Ethiopia's legal regime envisages a balance in economic benefits, wellbeing and environmental sustainability. More specifically, Ethiopia's environmental laws embody various binding legal provisions that forbid pollution, require environmental impact assessment and set forth codes of practice for the flower sector. However the effectiveness of the normative framework seems to be weak owing to problems in institutional framework. Moreover, the challenges in technoscience and the pressures from the global value chain in lowering the profit margin of flower growers make it difficult for flower farms to meet the social and environmental compliance standards envisaged in Ethiopia's laws and international standards of compliance. These contradictions are highlighted in the last section of the conclusion which notes the need to move towards the stronger version of sustainable development and at the same time nurture national and sectoral competitiveness rather than pursue a *race to the bottom* to attract unsustainable 'investment tourism'.

* * *

1

Development as an Objective of Ethiopia's Investment Promotion

Buzzwords related to development come and go. In the 1960s and early 1970s the development motto in Ethiopia was catching up thorough modernisation, and from the mid 1970s until the late 1980s it was the non-capitalist road to development, self reliance and the new economic order. At present, the words 'investment, investor, etc.' are being overused to the extent that the essence and features of the concept of investment run the risk of being misconstrued.

Chapters 1 and 2 examine the *WHY aspect of investment promotion* in Ethiopia. Section 1.1 briefly introduces the objectives of investment promotion under Ethiopian investment law, namely '*development*' and '*improving living standards*' of people. Sections 1.2 and 1.3 provide an overview on the essence of 'development' and the various theories on the path to economic development that have influenced laws and policies in Ethiopia over the last five decades.

1.1. The Objectives of Investment Promotion under Ethiopian Law

The first paragraph in the Preamble of Ethiopia's Investment Proclamation (Proclamation No. 280/2002) states that "… the encouragement and promotion of investment has become necessary so as to *accelerate the economic development* of the country and to *improve the living standards of its peoples*." These twin objectives are also embodied in Article 4 of the Investment Proclamation which reads: "the objectives of the investment policy of Ethiopia are designed to *improve the living standards* of the peoples of Ethiopia through the realization of *sustainable economic and social development*".

Sub-Articles 1 to 8 of the provision state that the specific objectives of Ethiopia's investment policy are to:

- "accelerate economic development";
- "exploit and develop the immense natural resources of the country";
- "develop the domestic market through the growth of production, productivity and services";

- "increase foreign exchange earnings by encouraging expansion –in volume and variety– of the country's export products and services and the improvement of their quality as well as to save foreign exchange through production of import substituting products";
- "encourage balanced development and integrated economic activity among the Regions and to strengthen the inter-sectoral linkages of the economy";
- "enhance the role of the private sector" in accelerated economic development;
- "render foreign investment play its proper role in the country's economic development"; and
- "create wide employment opportunities for Ethiopians and to foster the transfer of technical know-how, of managerial skills, and technology required for the progress of the country".

The core expectations enshrined in the preamble and Article 4 of the Investment Proclamation can be summarized as follows:

a) Ethiopia's investment policy and laws are designed to improve the living standards of peoples;
b) Rising standards of peoples can be improved through the realization of *sustainable economic and social development;"*
c) Objectives 'a' and 'b' here-above take the form of specific objectives (listed in the preceding paragraph) which include the eight particular objectives embodied under Article 4 of Proclamation No. 280/2002.

Ethiopia's Millennium Development Goals target at raising the living standards of its population to the standards in middle income countries by 2015. Thus, the word "peoples" in the Preamble and Article 4 of the Investment Proclamation No. 280/2002 does not represent an abstract notion but an objective which ultimately refers to the elements of the collective, i.e. individuals, families, neighbourhoods and larger communities that are offered the promise that the promotion of investment will bring about improved standards of living as a result of *sustainable economic and social development*. The following sections of this chapter deal with the concept of development after which chapter 2 discusses the notion of rising standards of living.

1.2. The Essence of Development

1.2.1. *Civilizations* and *progress*: Precursors of the notion of development

In ancient Athens, '*civis*' referred to a person who lives in towns in contrast to tribal or clan communities. As Mazlish notes, "[b]efore the arrival of the abstract noun 'civilization,' there lay at least two millennia of efforts by, in this case, Greeks, Romans, and medieval Europeans, to distinguish themselves from 'barbarians' by verbs and adjectives referring to civility and cultivation".[1]

> [Civilization] . . . expresses a people's shared idea of reality. This idea of reality also includes the sense of what is right and proper in ordinary behaviour. Common sense includes a normative guide to action as well as a perception of 'objectivity' (or what is really out there). . . [T]his common sense, which is different for people in different times and places, is shaped by a people's collective practical responses to their material conditions of existence.[2]

Cox considers civilization as "a fit between material conditions of existence (. . . [including] human organization of an economic and political character) and intersubjective meanings".[3] Changes in material conditions and the "meanings that people share intersubjectively" go through changes resulting in the "slow but continuing development of civilizations".[4] Such changes come from internal dynamics such as geography, material conditions and enlightenment and "from encounters with other civilizations" in the course of migration and integration as a result of which civilizations mingle and at the same time be discordant as [d]ifferent peoples in the same geographical site come to perceive reality differently.[5]

Cox further distinguishes civilization from culture because the latter "refers to norms and behaviour patterns of a more limited group" while a multicultural society "may belong to the same civilization".[6] They are also different in the realms of stability and change because culture is constituted of "practices and norms that are mutually coherent" and that evoke "the notion of homeostasis as a natural restorer of equilibrium" while "[t]he idea of equilibrium is alien to the notion of 'civilization" which involves "development and change through encounters and transformations.[7]

In the eighteenth century, the word civilisation was used in France "as a process generating the *civilité* associated initially with the status norms" of the nobility and monarchy and it was later used as "a universalistic concept by the Revolution".[8] In Germany "the corresponding term

was *Kultur*" was "associated with the middle class and the universities" and it was later on "identified with specific peoples, each with its own particular cultural spirit".[9]

As of the nineteenth century, Europe's domination of the world and colonialism were accompanied by the redefinition of '*civilization*' which led to the ideology of Europe's civilizing mission. Even if Islam was the most advanced civilization during Europe's Middle Ages in the fields of mathematics, medicine, philosophy and other spheres, Europe's achievements during the enlightenment and the industrial revolution propelled western civilization as the forerunner. Ultimately, however, colonialism, racial segregation and the two world wars 'demystified' the 'universalist' claims and the 'civilizing mission' of western civilization. Since 1945, the hierarchical dichotomy among nations ceased to use the label of 'civilization' which meant western civilization, and was replaced by the notion of 'development', a term which was already in existence but without its current domineering stature of omnipotence.

Another concept that preceded the current notion of development is *progress*. The concept of progress is basically historicist which compares the various phases of the past with one another and with the present. It envisages that quantitative changes would bring about qualitative advances that propel societies forward in the march of time. This concept of social progress was the negation of the long-held view of natural cycles, and it foresaw a steady advance in civilization.

The core target in the notions of civilization and social progress,[10] was the individual and by extension the society at large. Yet, there was controversy whether progress evolves as the consequence of social process which results from the economic mode of production (as believed by Adam Smith and others) or whether reason, enlightenment and rational acts are the key and underlying forces in human progress. Immanuel Kant, for example, attributes historical progress to philosophical and moral reason. The controversy between the libertarian views of *freedom of action* vis-à-vis the need for the *rational guidance* has brought about an array of syntheses that attempts to explain the factors of social progress.

Immanuel Kant (1724-1804) notes that humans in general do not behave under mere guidance of instincts, nor have humans developed onto being "the rational citizens of the world" who can act "according to agreed-on plan". [11] Yet, he envisages a "definite natural plan for creatures who have no plan of their own".[12] He also states that reason is not an instinctive exercise but rather

requires repeated series of "trial, practice, and instruction in order gradually to progress from one level of insight to another".[13] This, according to Kant, cannot be attained in a person's lifetime but through series of countless generations "each of which passes its own enlightenment to its successor in order finally to bring the seeds of enlightenment to that degree of development in our race which is completely suitable to Nature's purpose".[14]

> To a high degree we are, through art and science, *cultured*. We are *civilized* ... in all sorts of social grace and decorum. But to consider ourselves as having reached *morality* – for that, much is lacking. The ideal of morality belongs to culture; its use for some simulacrum of morality in the love of honor and outward decorum constitutes mere civilization.[15]

Kant foresees phases of moral development beyond our current notion of 'modernity' and 'civilization'. Under such future societies envisaged by Kant, humans do not pretend (or be forced) to act in conformity with the expectations of 'civilized' or 'modern' society, but in pursuance of inner informed choice and rational conduct which is in harmony with the rational conduct of other members of the society and that is deemed as a categorical duty and an end in itself.

Since the end of World War II, the notion of progress has been awarded the designation of '*development*, with meanings far wider and complex than the referents that were hitherto represented by the same word. Unfortunately, however, the level of abstraction seems to have moved farther and farther away from the original referents of civilization and progress, i.e. from individual persons at the grassroots and from concrete and visible social groups.

1.2.2. Classical and pre-modern conceptions of '*development*' and '*progress*'

In Ancient Greece and Rome, development was regarded as a phenomenon with cyclic phases of renewal, expansion, contraction and decomposition that sequentially followed each other in a perpetually recurrent cycle.[16] This conception predominantly envisaged a recurrence of constructive (positive) change and negative events of destruction and decay that are "naturally determined, recursive, and finitely given sequences of cyclical change".[17] Plato had the notion of development within cycles which eventually seems to have evolved "to the later conceptions in which the image of the spiral replaces that of the cycle".[18] Marcus Aurelius of Rome (AD 121-180) compared events or phenomena with "forms," which "come round in a circle" and he stated

that "it makes no difference whether a man shall see the same things during a hundred years or two hundred, or an infinite time".[19] The modern world, however, perceives development as "a discontinuous process in which destruction and renewal are simultaneous as much as sequential".[20]

Cowen and Shenton compare the process of development with the acts of real estate developer who "causes the old to be destroyed in order to create the new" and this involves the "negative dimension of decay, decomposition and destruction" and the positive dimension which embodies "an image of the new". [21] Whenever the image of the new is pervasive, the negative dimension remains latent and can be regarded as a price offered for '*progress*'. On the contrary, the scope and depth of the positive dimension becomes relatively weak thereby causing regression when the negative dimension exceeds the positive aspects of the '*development*' process.

As Hettne observes, "[t]he basic structure of development thinking was established in the mid-eighteenth century and lingers on onto contemporary times" and he notes that "the discourses were contextualized into a number of historical situations".[22] The ancient conception of cyclic change gradually gave way to the linear and steady concept of development since the early Enlightenment. Fontenelle (1657-1757), envisages "the progress of reason and the enlightenment through history". [23] Likewise, Hegel (1770-1831) foresees "a linear unfolding of the universal potential for human improvement" which "need not be finite and reversible".[24] He regards the history of the world as "a process of development in the realization of the spirit". [25] Although Fontenelle and Hegel's notions of progress mainly refer to the progress of reason and the spirit, these notions have apparent relationship with their belief in socio-economic progress.

Adam Smith envisages that the market (within the setting of property sanctity) "provided the arena for transforming the pursuit of individual interest of 'self-love' into the fulfilment of social needs through the mechanism of a potentially infinite series of individual agreements which culminated in the market".[26] His conception considers voluntary rational acts of exchange as positive for progress and attributes any destruction or decay to subjective failing and not to the objective process of exchange.[27] Marx, on the other hand, regards development as the result of the steady development in production forces which, at a given stage, enters into an irreconcilable contradiction with outdated production relations thereby leading to radical transformation and progress.

Saint-Simonians "attempted to impose constructive order upon what they took to be industrial disorder of the present.[28] In this regard, Auguste Comte attempted to reconcile social order with "the moral, intellectual and material qualities of progress"[29] so that social progress can lead to "development, which brings after it improvement".[30]

1.2.3. Modern Usages of the Term '*Development*'

Gasper refers to three eras of development characterized by different waves of civilization. He states that the first era of development spans "from '*the rise of man*' to the emergence of modern states in Europe around the sixteenth century –notably the emergence and evolution of agriculture, cities, and civilizations," and that the second "consists of the '*rise of Europe'* (and North America)" which is now followed by the third era, i.e., the Post-World War '*global development era*.'[31]

Post-World War II definition of the word 'development' was initially "equated with economic development; and economic development in turn with economic growth" until its meaning evolved through the concept of human development.[32] The term seems to have two aspects, i.e. being normative and involving change.[33] According to Chambers, "the underlying meaning of development has been *good change*" and he notes that there has been and will be variation of views about "what is good and what sorts of change are significant".[34]

Development[35] envisages not only material comfort but also the social, political and environmental settings that are crucial in good life. Gasper notes the four major usages of the term 'development' as used by academics in development studies. *First*, development may be regarded "as fundamental and structural change" as a process or an outcome such as GDP per capita, technological modernization, urbanization, globalization, and the transformation of relations of production.[36] Rostow's "*The Stages of Economic Growth* (1960)" and Marxist political economy illustrate the conception of development as a '*structural change*.'[37] The *second* conception relates 'development' to *intervention* or external action, a transitive concept which "involves a claim that we develop you" in contrast to "unconscious self-development of an organism and the reflexive self-development of conscious agents ('we develop ourselves) ".[38] According to Gasper, the usage of the term 'development' either as structural change or intervention is *positive (neutral)* and *non-evaluative*.

The *third* usage of development "*as improvement, good change, or as the good outcome*", and the *fourth* instrumental conception of development "*as that which facilitates or enables improvement*" are *evaluative* usages.[39] In its *third* usage, the notions of improvement or better life may be perceived from a universalistic perspective or from community-specific dimensions subject to the possibility of intermediate or mixed positions.[40] With regard to the *fourth* instrumental usage, the term 'development' "may refer to a desired end state, or to the precondition which permits what is desired".[41]

1.3. The Path to Economic Development: Conflicting Theories and Policies

1.3.1. Aspirations toward 'linear modernization' and setbacks

In the 1950s and 1960s, the theory of *modernization* envisaged that economic development will go through *linear stages* from 'traditional' societies with agrarian subsistence economies to the interim phase of '*pre conditions of takeoff*'' followed by the '*take off*'' (i.e. *industrialization*) phase which will then lead to *maturity* (sustained level of productivity and international network) and ultimately to the replacement of basic subsistence needs by '*mass consumption*.'[42] Kaldor, for example, believed that "there can be little doubt that the kind of economic growth which involves the use of modern technology and which eventuates in high real income per capita, is inconceivable without industrialization".[43] The '*take-off*' phase was presumed to lead to industrialization and entrepreneurial classes "as they did in Britain in the nineteenth century", [44] and it was assumed that during the phase of '*maturity*' "steady economic growth outstrips population growth" after which the '*final stage*' unfolds "when high mass consumption allows the emergence of social welfare (Pepper 1996)".[45] This theory assumed that modernizing the law and legal institutions would facilitate development, surplus capital and then investment capital.

The waves of codification of laws in Ethiopia in the late 1950s and early 1960s clearly show efforts to enhance development through legal and institutional reform. In 1964, Emperor Haile Selassie remarked: "In a real sense, the development of the nation depends upon the development of our legal institutions".[46] With regard to the role of legal education in development, the Emperor gave emphasis to the role of the administration of justice in a modern

state which "demands well trained qualified persons at every level"[47] and underlined that "Ethiopia needs a modern legal profession just as she needs the modern legal system …."[48]

The preamble of the 1960 Commercial Code of Ethiopia reads "… the progress of Our Empire in the field of commerce requires the codification of our Commercial Laws…" Moreover, the preface of the Commercial Code, paragraph 3, states that the Code "will assist in the swift and orderly development of Ethiopia's economic life." Similarly, the preamble of the 1960 Civil Code of Ethiopia states the significance of the Code for the "orderly development of the legal system". The preface of the Civil Code (paragraph 1) further relates its promulgation with the "modernization of the legal framework of [Ethiopia's] social framework so as to keep pace with changing circumstances of the world" and "in order to consolidate the progress already achieved and facilitate yet further growth and development."

A strong link was envisaged between '*law and development*' in the preambles and prefaces of the Ethiopian Commercial Code and Civil Code promulgated in 1960. Both had the objectives of '*modernizing*' Ethiopia's legal system and legal institutions through reforming the law and modernizing legal institutions along the footprints of western legal systems and institutions. As the Emperor's speech cited earlier indicates, focus was given to legal education and the legal profession which were believed to be inseparable from the reform of laws and legal institutions. In short, the enactment of many Ethiopian Codes of Laws in the 1960s, the establishment of Haile Selassie I University (currently Addis Ababa University) Faculty of Law in 1963 and the subsequent efforts and international support clearly reflect the outlooks, aspirations and commitment of those decades.

Max Weber's explanation[49] regarding the "role of modern legal system in the emergence of Western civilization" shows that legal 'development' "occurred simultaneously with the political and economic transformation what led to the industrial system and the centralized nation-state … which are mutually causative".[50] Weber admits that Europe's rational legal system had positive contributions towards the development of capitalism and industrialization in Europe. However, modernizing a legal system, according to Trubek's analysis of Weber's theory, does not on its own "*produce* economic development," but "merely helps structure the free market system".[51]

Unlike the assumption of the 'linear development theory', the findings of Hans W. Singer and Raúl Prebisch indicated the gradual deterioration of terms of trade between exports of

primary product (e.g. food) and industrial products. This was so because income from export of industrial products has elastic demand while the demand for primary products is inelastic. The *Singer-Prebisch* thesis also indicated the wild fluctuation in export price of agricultural products and advocated *structural reform* which, *inter alia*, needs "restructured international economy on historically different terms".[52] The theory called for infrastructural development to enhance intra-regional trade, border region development, and ultimate regional integration among developing economies.[53] This theory has influenced the domestic laws of many countries and the international legal regime as can be noted in "structural accommodations for certain developing country preferences" within international trade regimes.[54] Moreover, it has encouraged sub-regional and regional custom unions and free trade areas among developing countries.

The critique forwarded by the *structuralist* model against the *modernization* theory of development was further sharpened by the *dependency theory* which, among other things, advocated *Import Substitution Industrialization* (ISI). Supporters of the '*dependency*' theory[55] argued that the 'core' world economy would not allow developing countries to go through the western path of economic development because they are passive 'peripheries' of the centre to which they serve as suppliers of raw materials and recipients of mass production. Dependency theory "sees international economic relations in a world capitalist system as contributing to the underdevelopment or distorted (dependent) development of states in the periphery". [56] According to Tamrat Zerihun, the failure of the dependency theory to offer the promises it had made is mainly attributable to the failure of agriculture "to provide the necessary industrial capital".[57]

In contrast to the theories above, the '*human capital*' development theory gives prime focus to education, health and other human development indicators.[58] This theory contends that poverty alleviation and various aspects of economic and social justice ought to be focal points of development, and that resources allocated for education (for example) fall within the domain of investment and not consumption. The influence of this conception is apparent in the literature and reports (of various international organizations and transnational institutions) such as UNDP Human Development Reports. It is, however, to be noted that, in spheres of development such as education, focus on quantity rather than quality and standards is detrimental to human development.

In spite of their differences, the various theories of development considered the third world as a bloc and regarded the theories as applicable to all members of the third world. Moreover,

the theories optimistically contended that progress was achievable and regarded the law as a tool towards development and the state as a political entity that can actively facilitate the process. According to Schuurman, Post World War II developmental paradigms shared at least three characteristics:

- "The essentialisation of the Third World and its inhabitants as homogeneous entities;
- The unconditional belief in the concept of progress and in the makeability of society;
- The importance of the (nation) state as an analytical frame of reference and a political and scientific confidence in the role of the state to realise progress".[59]

In spite of the variation in policies and the underlying theories thereof, the post-war period until 1970 can be regarded as "*The Age of Regulation*", in contrast to the "*Transition Period*" of the seventies and "*The Age of Deregulation*" from the eighties until the present.[60] These periods can further be classified into the decades which represent distinct concepts and notions of development.

1.3.2. Evolution of the development doctrine: 1950s to 1990s

Thorbecke analyzes the evolution of the development doctrine (from 1950 to 2005) by classifying the periods into decades. "The development economists' tool kit in the *fifties* contained such theories and concepts as the 'big push' (Rosenstein-Rodan 1943), 'balanced growth' (Nurkse 1953), 'take-off into sustained growth' (Rostow 1956) and 'critical minimum effort thesis' (Leibenstein 1957)".[61] During the fifties, the emphasis on large-scale investment "was strongly influenced by the relatively successful development model and performance of the Soviet Union between 1928 and 1940".[62] During this period, industrialization was considered as "the engine of growth which would pull the rest of the economy along behind it" and the industrial sector "was assigned the dynamic role in contrast to the agricultural which was, typically, looked at as a passive sector to be 'squeezed' and discriminated against".[63] Development was perceived from the context of modernisation "and, in turn, modernisation was equated with westernisation".[64]

During the decade that followed, i.e. the *sixties*, 'economic dualism' was influential and the role of agriculture was recognized "as a supplier of resources by being an active and co-equal partner with modern industry". This period was marked by "[t]he success of South Korea and Taiwan in nurturing their agricultural sector and using the agricultural surplus to achieve a

successful industrial take-off . . ." [65] As Hettne observes, the strategy of development during the 1950s and 1960s "was country-based and the state the main agent, supposedly guided by development theory. Often this guidance was based on 'development ideology'."[66]

In the *1970s*, the increasingly worsening economic situation in low-income economies resulted in lesser reliance on "GNP as a dominant all-encompassing objective".[67] Development was redefined "as a process that should have as simultaneous objectives: growth and poverty alleviation".[68] The role of the informal sector and traditional agriculture in the process of development were also recognized. *The decade of 1980s* was converted into the 'lost development decade' and was predominated by stabilization and structural adjustment policies owing to the debt crisis.[69] This period witnessed a "strong sentiment to do away with aid altogether and have private capital flows substitute for it".[70]

The 1990s was increasingly dominated "by the neoliberal policies of the World Bank (WB) and the International Monetary Fund (IMF)" and they were considered as appropriate policies to enable many developing countries to come out of severe balance of payments difficulties that grew worse since the 1980s and "that were considered to threaten the international financial system as a whole".[71] This period was marked by the structural adjustment programs (SAP) of the IMF and World Bank that aimed at modifying "the structure of an economy so that it can maintain both its growth rate and the viability of its balance of payments in the medium term' (Reed, 1996: 41), i.e. to address issues of debt".[72]

This decade of neoliberal economic doctrines and structural adjustment programmes naturally came up with prescriptions of trade liberalization and privatization in Ethiopia. The economy had combined the dual features of 'underdevelopment' (which it shares with other Sub-Saharan African countries) and that of a transitional economy due to the features that it shared with Eastern European economies.

1.3.3. The role of institutions in development: Reciprocal causal relations

The role of good governance and institutions in development is awarded attention since the 1990s. The word institution should not be conflated with the term 'organization'[73] because it represents wider concepts than organizations. As Douglass North points out "[i]nstitutions are the humanly devised constraints that structure political, economic and social interaction"[74] which may be informal such as "sanctions, taboos, customs, traditions, and codes of conduct" or

formal[75] enforceable legal rules such as contracts and property rights. North notes "the evolution of political and economic institutions that create an economic environment that induces increasing productivity".[76] He argues that the development of institutions is incremental and they "provide the incentive structure of an economy" because as the structure evolves "it shapes the direction of economic change towards growth, stagnation, or decline.[77]

Chang observes that institutions refer to both "the *forms* of institutions (such as democracy, independent judiciary, etc.) and the *functions* that they perform (such as rule of law, respect for private property, government effectiveness, enforceability of contracts, maintenance of price stability, the restraint on corruption)".[78] Chang identifies two categories of theoretical problems in the dominant discourse on institutions and development. He criticizes the assumption "that the causality runs from institutions to economic development, ignoring the important possibility that economic development changes institutions".[79] Secondly he criticizes the manner in which "the relationship is theorized in a rather simplistic, linear, and static way".[80] Chang does not deny the role of institutions in development but envisages a dual and reciprocal relationship between economic and institutional development:

> Economic development changes institutions through a number of channels. First, increased wealth due to growth may create higher demands for higher-quality institutions (e.g., demands for political institutions with greater transparency and accountability). Second, greater wealth also makes better institutions more affordable. Institutions are costly to establish and run, and the higher their quality, the more 'expensive' they become. Third, economic development creates new agents of change, demanding new institutions.[81]

Chang further clarifies his position that his views should not be misconstrued as saying institutions do not matter.[82] Developing countries cannot have ready-made and full-fledged institutional competencies and capabilities at the threshold of 'Global Standard Institutions'. This is because institutional development presupposes incremental progress and is reinforced by other dimensions of development which in return shape and facilitate the direction and pace of economic and social development.

Although most of Chang's core arguments are plausible, it is difficult, in the context of Sub-Saharan Africa, to assert that "the causality may be stronger" in the direction of the "economic development improving institutions" than "better institutions promoting economic

development".[83] First, this argument solely refers to formal institutions and does not consider the strong informal institutions that preceded and accompanied Europe's industrial revolution. Secondly, the experience in Sub-Saharan Africa (in the context of the current global system) differs from the earlier experience in other economies which managed to take-off despite relatively modest levels of institutional development. A Sub-Saharan African country which, for example, is under civil war or political instability ought to resolve its institutional problems (at least to a certain level of peace, stability and functional institutions) before any meaningful economic development can be achieved.

1.3.4. Neo-liberal 'free' trade, infant industry protection and FDI-led takeoff

Although the United Nations had declared the 1970s as the 'decade of development', it "turned out to be a very bad decade for most of the countries of the South".[84] The earlier period of national and social movements that pursued a spectrum of optimistic policies and ideologies was followed by "the period 1970–2000 which saw the downfall of most of these movements in power, or at least a drastic revision in their policies" as a result of "the period of the flourishing of globalization" and the resultant disillusionment. [85]

Since the 1980s, *neo-classical* liberal theories of development promoted free markets and trade liberalization in developing countries. Yet, low-income economies have encountered problems in the course of liberalization and globalization. The Asian Financial Crisis of 1997, for example, demonstrated that "the poor in an era of globalization tend to be more vulnerable to external (essentially macro-economic shocks)" thereby making it "important to design and implement a set of safety nets and structural measures that would reduce their vulnerability."[86]

Thorbecke contends that globalization is not a reliable substitute for a domestic development strategy and suggests that developing counties should pursue both active liberalization and active domestic development policies rather than passively wait for "the market forces of globalization to pull them on a fast development track".[87] He notes that passive liberalization, may lead to marginalization and countries "need to strengthen institutions as well as to invest in agriculture in order to reach the take-off-point for structural transformation of their economies to proceed".[88]

The prescriptions of free trade and liberalization clearly benefit developed countries and newly industrialized economies. As Chang duly notes, "the developed countries did not get where they are now through the policies and the institutions that they recommend to developing

countries today".[89] The mercantilist policies of Britain gave way to Adam Smith's notions of free trade at a time when it was Europe's leading industrial power. Most of the current developed countries "actively used . . . policies, such as infant industry protection and export subsidies – practices that these days are frowned upon . . ."[90]

Chang supports the arguments forwarded by Friedrich List (1789-1846) "commonly known as the father of the infant industry argument, namely, the view that in the presence of more developed countries, backward countries cannot develop new industries without state intervention, especially tariff protection".[91] List recalls Britain's restrictions[92] and argues that in the absence of such schemes "their newly established native manufacturers could never hope to succeed in free competition with the old and long-established manufacturers of foreigners" whom Chang lists out as the "Italians, the Hansards, the Belgians, and the Dutch".[93] List argues that "free trade is beneficial among countries at similar levels of industrial development" and "that free trade benefits Britain but not the less developed economies". [94]

> Any nation which by means of protective duties and restrictions . . . has raised her manufacturing power . . . to such a degree of development that no other nation can sustain free competition with her, can do nothing wiser than *to throw away these ladders* of her greatness, to preach to other nations the benefits of free trade, and to declare in pertinent tones that she has hitherto wandered the path of error, and has now for the first time succeeded in discovery the truth.[95]

List recalls Adam Smith's prescription of 'free trade' to the USA at a time when it was not yet adequately industrialized. The warning given by Adam Smith to Americans regarding the risk involved in restricting imports from European Manufactures was that it "would retard instead of accelerating their future increase in the value of their annual produce, and would obstruct instead of promoting the progress of their country towards real wealth and greatness.[96]

However, "the Americans firmly rejected Smith's analysis in favour of 'common sense' and 'the instinct of what was necessary for the nation', proceeding to protect their infant industries with great success after 1816".[97] As Chang points out, US protectionism continued until it emerged as the world's leading industrial superpower after which it became the vanguard for free trade although it "acquired such supremacy through the nationalistic use of heavy protectionism".[98]

Globalization has considerably narrowed down the policy space towards infant industry protection (IIP) strategies. Primarily, global pressures against such policies are strong. Secondly, cultural globalization has enhanced consumerism thereby creating strong pull factors towards legally and illegally imported merchandises of unsustainable consumption and affluence. Thirdly, the current influx of low-price goods from China and other newly industrializing countries and their competitive price despite tariffs further exacerbates the pressures on local infant industries, in effect, rendering the effective protection of infant industries difficult. This does not, however, justify neo-liberal free ride against the interest of developing economies but rather shows the extent to which developing countries find it difficult to climb up the ladder towards industrialization even if it had not been kicked away by the developed economies that used it while they were developing.

As Ozawa recalls, "post-war Japan effectively pursued the Hamilton-List IIP [Infant Industry Protection] strategy in modernizing its capital-intensive industries (e.g., steel, machinery, automobiles) by borrowing and improving on Western technologies".[99] Even if the Second World War had devastated Japan, it "re-started *first* with then-comparatively advantaged, labor-intensive light industries and quickly redeveloped exports (e.g., toys, textiles). Japan's light industries did not need -- and in fact, *avoided* -- investments by foreign multinational enterprises (MNEs)".[100]

In contrast to the path of infant industry protection undergone by Britain, Germany, USA and Japan during their initial take-off in industrialization, the march through FDI-led kick-off seeks to use foreign investment as "a *new* jump-starter of industrialization and a more expedient alternative to the inward-looking IIP strategy".[101] To this end, Singapore, Taiwan and South Korea "had to set up export-processing zones to attract labor-seeking FDI in the 1960s-70s, since they lacked the experience of producing manufactured exports".[102] These countries "succeeded in attracting labor-intensive manufacturing, the *first* step to industrial modernization" while China "[opened] up for trade and FDI in 1978" and "China's special economic zones and low-wage labor enticed foreign MNEs to build China's low-cost, export-driven manufacturing, swiftly alleviating poverty".[103] Such FDI-led takeoff at "the *beginning* stage of catch-up" has been effective in these "labor-abundant emerging economies" that "have an endowed comparative advantage in low-end manufacturing" subject to the caveat that advanced

industrialization depends "increasingly on knowledge" and demands "more sophisticated approaches".[104]

In the Ethiopian context, neo-liberal prescriptions are not only against infant industry protection (a scheme which is indeed difficult under the current global system), but do not also bring about FDI-led take-off unless FDI is accompanied by various endogenous and exogenous variables that are analogous and comparable to the economies that benefitted from it. This is because FDI-led take-off involves active (and not passive) liberalization to attract foreign investment in spheres where the host economy has a competitive advantage, and it mainly relates to factor-driven investments. This involves issues of national competitiveness (Section 3.1.1) and sector-level competitiveness discussed in Section 7.5.

1.3.5. Governance and poverty reduction within the neo-liberal frame

Craig and Porter state the three central dimensions of Poverty Reduction Strategy Papers (PRSP), i.e. economy, governance, poverty, and they provide critical accounts particularly in relation with the dimension of local governance in Uganda's poverty reduction program. They note Rodrik's observation that "Global integration has become, for all practical purposes, a substitute for a development strategy" despite its "shaky empirical ground" and the distortion it entails in prioritizing policies.[105] They further underline that "closer studies of globalization typically refer to very uneven and differentiated processes highly dependent on particular local and economic initiative".[106] The concerns expressed by Craig and Porter include "low rates of growth in high reform countries, unevenness in integration, high adjustment costs and political fallout, and the rise of concerns about longer term path dependence of growth and inequalities".[107]

They explain the experience gained in Uganda with regard poverty eradication plans and criticize "the plethora of financial stability and integration best practice 'rules' considered necessary for the 'accountable' delivery of resources to areas of local need according to globally determined standards." Instead, they suggest "decentralized, participatory democracies" which (as verified by cross-national studies) not only enhance "economic growth, greater predictability and stability", but are also "more resilient to shocks, and deliver superior distributional outcomes".[108] However, they underline that "[d]ecentralization done with merely technical objectives in mind can merely decentralize tyranny, inadvertently politicize the local executive, and also greatly increase volatility".[109]

Craig and Porter indicate that "[g]lobalization pushes and depends on a progressive shift from informal to formal institutions" and this displaces many locally attuned social norms and rules of conduct with formally specified, globally legible and legally binding norms.[110] They admit the significance of macro-stability but underline that ultimately it is the "much more specific and local dimensions of polity, society and economy linked to global change that will determine outcomes for many poor".[111] They conclude that International Financial Institutions (IFIs) need to avoid 'narrow blueprints' in both peripheral and semi-peripheral economies, and "still be within a legitimate comprehensive frame", while local governments ought to "be able to send strong signals to IFIs about where specific sectors and places are likely to be disruptively impacted by particular frameworks".[112] The lessons that Ethiopia can draw in this regard is the role that various (but not all) informal institutions and social norms play in development and the need to make sure that they are not hastily displaced by formal norms and rules.

1.3.6. Post-development critics and alternative paths of development

Critics contend that "the post-World War II discourse of development is firmly entrenched in Western modernity and economy".[113] According to Escobar, the conception of 'alternatives of development' requires "a theoretico-practical transformation of the notions of development, modernity and economy".[114] Escobar notes that "the peoples of Asia, Africa and Latin America did not always see themselves in terms of 'development' and that [this] goes back only as far as the early post-World War II period" when a whole new political economy - different from that of the colonial or pre-war period - was set into place.[115]

Post-development critics contend that the notion of development has become "obsolete and bankrupt" thereby invoking "alternatives to development".[116] According to Matthews, the "environmental destruction which the post World War II development project appears to bring about" and other factors such as broken post-World War II promises and western cultural homogenization [117] are the causes for the rise of 'post-development' literature. These critics forward, *inter alia*, 'relativist' conception of development dependent upon the values and cultures of communities in developing countries.

The current post-modern conception considers development as "an imposition of institutions and values by the West on areas deemed to be in need of development, guided by an over-ambitious, all-explanatory development theory".[118] This post-modern conception considers low-

income economies "as legitimate objects for development intervention, more often that not of a harmful kind".[119] Pieterse criticizes the recipes of development policies that are regarded as "relevant across countries and regions"[120] and regards developmentalism as "the theorization (or rather ideologization)" of the path pursued by the western world.[121] According to Pieterse, "[t]he crisis of developmentalism as a paradigm manifests itself as a crisis of modernism in the west and the crisis of development in the south".[122]

Hettne believes that "this harsh assessment is not completely groundless, but nevertheless somewhat exaggerated." On the positive front, he admits that development thinking has a rich tradition "encompassing important theoretical debates on the dynamics of social change, as well as an ambition to represent a global experience of empirical conditions in different local corners of the world". He suggests that "[t]his rather healthy baby must therefore, in spite of all criticism of the 'modern project', not be thrown away with the bath water, but allowed to grow up into 'global social theory'."[123]

Most post-development critics do not refute the need for development pursuits in developing countries, but they envisage multi-modal perspectives depending upon the particular realties of a given country in lieu of a monolithic conception of development. In the context of floriculture, for example, it can mean alternatives that can enhance the economic and social benefits in the context of environmental sustainability. As Cox notes, "[t]he issue for the future structure of world order had become universal globalization versus alternative paths of economic, social and cultural development; or one all-absorbing civilization versus a coexistence of several civilizations". [124]

> Globalization says: There is no alternative. In the thinking of globalization, societies will inevitably be shaped to conform to the requirements of economic competition which means they will become more and more alike. Those who contest globalization affirm the possibility of alternatives that embody values both derived from their past and imagined as more desirable futures. . . . There are signs that rampant individualism may have passed the point at which it serves as a dynamic of economic competition to become a threat to social cohesion.[125]

In the context of Sub-Saharan Africa, there is growing disempowerment of the states trapped in debts and deficits. This phenomenon is currently unfolding in a global system with a relatively narrow segment of benefactors and nascent levels of corporate responsibility. The features and

impact of the global value chain in Ethiopia's flower sector (discussed in chapters 7 and 8) illustrate the problems regarding the poor level of corporate responsibility particularly at the marketing tier of the value chain and the challenges in the realization of the sector's economic and other objectives.

The coalescence and refinement of global development inevitably encounters challenges as was the case during the various phases in the consolidation of the nation state. As nation states had their darkest periods in history particularly during their earlier centuries, 'globalization' likely continues to facilitate the interest of centres of global power and finance until it eventually reaches at the cosmopolitan height envisaged by various thinkers such as Kant. As Sachs observes:

> … 'mankind', for the Enlightenment, was not just an empirical concept meaning the inhabitants of the globe; it had a time arrow built in. 'Mankind', in effect, was something yet to come, a task to be realized as man moves along the path of progress, successively shedding the ties of authority and superstition until autonomy [as an element of social cohesion] and reason would reign.[126]

1.3.7. The notion of the developmental state

Woo-Cumings points out that the developmental state is "shorthand for the seamless web of political, bureaucratic, and moneyed influences that structures economic life in capitalist Northeast Asia.[127] Evans regards the concept of the developmental state as neo-utilitarianism and contrasts it with the predatory state. Developmental states take up tasks that go beyond regulatory functions and also undertake entrepreneurial activities as a necessary part of economic transformation.[128] States, according to Evans, may be developmental or predatory depending upon "the way in which they affect development".[129] He uses the qualifier 'predatory' where "[t]hose who control the state apparatus seem to plunder without any more regard for the welfare of the citizenry than a predator has for the welfare of its prey." Developmental states "foster long-term entrepreneurial perspectives among private elites by increasing incentives to engage in transformative investments and lowering the risks involved in such investments" and the consequences of their actions promote rather than impede transformation and development.[130] Evans cites the East Asian NICs as examples of a developmental state, Zaire [of the late 1980s] as a predatory state, and Brazil [of the late 1980s] as the illustrative "intermediary" case[131] between a predatory and a developmental state.

According to Vartiainen, three salient features of a successful developmental state distinguish developmental states from post-colonial states that pursued various development policies. *Primarily*, the developmental state must be strong to impose its collective developmental objectives, be meritocratic and ought to be "insulated from both the market and the logic of individual utility maximization". *Secondly*, the state should have "thick external ties [*embeddedness*] to the economy's organized agents such as corporations, industrialists, associations and trade unions." And *thirdly*, there must be "a relationship of *mutual dependence* or *mutual balance* between the state and the rest of the economy" in such a manner that the state can be " able to 'discipline' economic actors such as firms and trade unions, while appreciating that their privileged positions ultimately depend on the success of the economy".[132]

Amsden holds a similar view when she states that the two major features of a developmental state are the capacity to discipline big business and dispensing assistance to the business sector. She cites Korea, Japan and Taiwan as examples for more effective industrialization in comparison with other late industrializing countries. These achievements, according to Amsden, are attributable to the state's "power to discipline big business, and thereby to dispense subsidies to big business according to a more effective set of allocative principles". [133]

As Chang points out, there are certain problematic features that we can observe regarding the free market economic system that 'free-marketeers' do not tell us about.[134] Equally important is the need to distinguish between the level of intervention of a predatory state from that of a developmental state. The latter empowers and monitors economic actors, and to this end, it requires meritocratic institutions that monitor economic actors towards the country's developmental strategic objectives. Developmental states are thus drastically opposite to predatory states that are not only corrupt but also make use of coercive institutions that scare economic actors and intimidate entrepreneurs in the guise of regulatory intervention.

1.3.8. Synopsis of Ethiopia's development pursuits and setbacks

Ethiopia has a long history of settled agriculture which dates back over 2000 years, and its ancient civilization is marked by social institutions, obelisks, churches, mosques, palaces, literature and music. However, handicraftsmen (such as goldsmiths, tanners, potters, etc.) were looked down upon until very recently. This seems to have impact on the mainstream mindset which has yet to march towards a strong work ethic, innovation and entrepreneurship.

The religious tradition (both Christian and Islam) gave primacy to religious, moral, social and cultural pursuits rather than economic endeavours. It was during the reign of Emperor Menelik (1844-1913) that various endeavours of '*modernization*', in the economic sense of the term, started to bear fruit. This momentum was enhanced during the reign of Emperor Haile Selassie I (1892-1975) under whose government, the pursuits of 'modernization' continued until the Italian Invasion in 1935, and thereafter.

The last three decades of Emperor Haile Selassie's reign coincide with the decades during which the doctrines of development evolved through aspirations of the '*big push*' (such as intensive investment and industrialization) to the doctrine of '*dualism*' of agriculture and industry in the path to development. During the 1960s and early 1970s there was progress in modern agriculture. The steady growth of oil seed farming in commercial farms towards the Ziway road, cotton farms in the Awash Valley, etc. were cases in point.

Reservoirs were planned to be built at the headwaters of the Blue Nile based on the studies conducted (in 1958) by Ethiopia in collaboration with the US Bureau of Reclamation in the Department of Interior. This could have enabled Ethiopia to use irrigable land at the size of about "17 % of the current land under cultivation in Egypt"[135] which would have required "six billion cubic meters of the Nile River" and these dams could have saved over fifteen billion cubic meters per year that are lost due to evaporation and seepage at Aswan High Dam.[136] These projects could also have reduced "flooding and sedimentation in the downstream countries" and enabled hydro-electric generation to the mutual benefit of Ethiopia and downstream users. [137]

This was a lost opportunity for Ethiopia's economic take-off that could have also made watershed management and environmental preservation in the Blue Nile Basin possible thereby positively serving the long-term interests of preserving the Nile watercourse itself. Unfortunately, the hydro-politics related with the Blue Nile, reluctance of the regime to allow political and land reform, its failure to allow federal empowerment to Eritrea, and the series of civil wars that escalated since the early 1960s took Ethiopia back into turmoil and political instability analogous to its long history of civil wars, palace power struggles and inter-region conflicts. Although the themes of the thesis do not necessitate discussion on the legal aspects of this geopolitical dimension, the events represent a certain chapter in Ethiopia's development

pursuits (and setbacks) under policies that were influenced by the various doctrines of development highlighted in the chapter.

The 1973-74 global oil crisis which had its impact in Ethiopia, the 1974 drought, and the political realities of the early 1970s led to a revolution which attempted to transpose Marxist ideology into policies and laws. The modernization theory of economic development (which was already being criticized since the late 1960s), entirely gave way to the dependency model in its Marxist version. Post-revolution policies largely pursued a combination of policies which encouraged the Soviet and Chinese hybrid models of industrialization, state farms, collectivization of villages, cooperative farms, self-reliance and import substitution.

However, these policies did not lead to intensive investment and economic take-off that had transformed the Soviet economy in the 1930s. Instead, political instability and civil wars continued at an enhanced and steadily increasing pace and magnitude. Nor could the regime implement the Chinese path to development partly because the Ethiopian Marxist leadership was an ensemble of Marxist political groups who were restructured top-down as opposed to the Chinese Communist Party that had a strong mass base, committed membership and decades of embryonic development since the 1920s with ample experience, loyalty and fortitude that was nurtured through the thick and thin.

Ethiopia's development strategies of the late 1970s and the 1980s pursued the East European and Soviet models. However, a largely agrarian Ethiopia (with its subsistence economy) could not attain the objectives aspired, and state farms were largely inefficient and subsidized. Policies that were largely influenced by the dependency theory and import-substitution policies could not lead to significant economic development. Yet, the efforts and achievements in the realm of reforestation and environment protection were showing positive results in the 1980s.

The Reagan-Thatcherite global policies and balance of power during the 1980s had its impact in Ethiopia. A policy of mixed-economy was issued during the late 1980s although it did not live up to the expectations and needs of the private sector and the society at large. The l990s witnessed change of government, privatization and a significant revival of the private sector. Pursuits towards market economy cohabited with certain aspects of the earlier features of the economy such as the land law regime. The salient feature of this period seems to be the alternating influence of various development doctrines and policies that include IMF-World

Bank prescribed privatization, structural adjustment, institutional restructuring and the notion of the developmental state.

In the realm of human development, there is indeed a considerable achievement that has widened access to education at all levels. Yet, a *caveat* is in order so that the figures of achievement are examined in light of the actual number of graduates who have in fact acquired the thresholds and standards of *competence* and *capabilities* that the transcripts and testimonials represent. There are commendable achievements in infrastructure, economic growth and integration with the global economy, subject to the *caveat* that the real yardsticks lie in 'sustainable development' rather than 'growth' and in social wellbeing to the majority rather than elite affluence. A closer examination of sectors and sub-sectors such as Ethiopia's flower sector indeed provides lessons regarding the extent to which the economic performance in the sector and the benefits thereof are commensurate with the objectives envisaged in Ethiopia's investment promotion.

1.3.9. Assumptions regarding the economic benefits of Ethiopia's flower sector

As the Gross National Product of an economy is the aggregate representation of the production of goods and services, the level of success in a country's economy depends, *inter alia*, upon the performance in each sector and sub-sector. Even if this study pays particular attention to the flower sector, the achievements obtained, good practices and the challenges in the sector are elements within the general framework of Ethiopia's pursuits to development and rising standards of living.

Within a very short span of time, the flower sector has become one of the major sources of export earnings in Ethiopia. "A Dutch company started a flower farm in Ziway area on a land leased from a state farm" in 1985.[138] Ethiopia's flower production for export started in late 1990s despite earlier attempts in one of the state farms before the 1990s. According to Mulu and Senobe,[139] the first and second rose farms started flower growing in 1997 and 1999 respectively. Golden Rose was established in 1999 and started exporting in 2000; and two other farms (Summit Agro industry and Enyi Ethio Rose) were operational in 2000 and 2001.[140] By 2003, five farms were engaged in flower exports, and in 2005 Ethiopian flower industry made a significant take-off after which it is showing a steady rise in volume of production and trade

value of exports. In 2007 there were 67 farms that were engaged in flower production and export, [141] and the June 2011 data shows that 82 flower farms are operational.

As highlighted under Chapter 7, the benefits from the export performance of the sector and its achievements in job creation are commendable and clearly contribute positively towards the economic dimension of Ethiopia's development. However, this involves various assumptions. The first assumption is that there is a significant amount of net foreign exchange inflow to Ethiopia's economy (after deductions are made for imported assets, supplies, royalties and profit repatriation). Secondly, optimal economic benefits assume that there is no gap between the real price gained by flower exporters and the amount that is remitted to Ethiopia.

The third and fourth assumptions relate to economic benefits from job creation and tax revenue. The latter issue refers to the income tax to be paid by flower farms after an income tax break of five years. This assumption presupposes engagement in sustainable floriculture which can guarantee the sustenance of economic benefits. It is to be noted that the incentives for investment promotion include exemption from customs duties for investment assets and suppliers which in effect reduces the tax revenue.

As highlighted in Section 1.1, investment promotion in Ethiopia not only assumes 'development' but also the enhancement of 'rising standards of living' or 'wellbeing'. Even if this envisages effective and competitive performance in all sectors of a country's economy, attempts can be made to examine the role played by sectors and sub-sectors towards the attainment of these objectives. The next chapter examines the second objective embodied in Ethiopia's investment law. i.e. 'rising standards of living' or 'wellbeing'.

* * *

Notes

[1] Bruce Mazlish (2004), *Civilization and Its Contents* (Stanford: Stanford University Press), p. 4.
[2] Robert W. Cox (2000), "Thinking about Civilizations", *Review of International Studies*, Vol. 26, p. 217.
[3] *Ibid*, p. 220.
[4] *Ibid*.
[5] *Ibid*.
[6] *Ibid*, p. 223.
[7] *Ibid*.
[8] *Ibid*, pp. 217, 218.
[9] *Ibid*, p. 218.
[10] The terms 'civilization', social progress, etc. have found their way into policies and literature in Ethiopia. For example, Kebede Michel (1915-1998) had in the early 1950s expressed his aspirations towards '*civilization*' and *progress*. His book titled 'Japan indemin Seletenech' [*How Japan Became Civilized*] discusses the relatively comparable conditions in Ethiopia and Japan until the 19th Century. Likewise, the notion of progress has taken a center stage in the autobiography of Emperor Haile Selassie I titled "*My Life and Ethiopia's Progress*' [hiywotena yeeitiopia irmija].
[11] Immanuel Kant (1784), *The Idea for a Universal History from a Cosmopolitan Purpose*, Introduction (Translation by Lewis White Beck. From Immanuel Kant, "On History," The Bobbs-Merrill Co., 1963.)
[12] *Ibid.*
[13] *Ibid*, Second Proposition.
[14] *Ibid.*
[15] *Ibid*, Seventh Proposition.
[16] M. P. Cowen & R. W. Shenton (1996). *Doctrines of Development* (London & New York: Routledge), p.viii.
[17] *Ibid*, p. 13.
[18] Leslie Sklair (2001 [1970, 1998]). *The Sociology of Progress* (Routledge), p. 6.
[19] *Ibid*, pp. 4, 5.
[20] Cowen & Shenton, *supra* note 16, p. viii.
[21] *Ibid*, pp. viii, ix.
[22] Björn Hettne (2009). *Thinking about development* (Zed Books), p. 5.
[23] Steven F. Rendall (1971). *Fontelle and His Public*, MLN. Vol. 86, No. 4 French Issue (Johns Hopkins University Press) p. 498.
Fontenelle attributed such progress to the elite of *raisonneurs* rather than the mass of people which he classified as the '*peuple'* on the basis of "difference in mentality rather than social station." He argued that it was futile and dangerous "to appeal to the reason of [the ones] whose inherent inclination was to base their beliefs and conduct on myth, imagination and habit". Moreover, he warned against expecting the mass of people to conduct "the skeptical exercise of reason, and feared that violent anarchy might ensue if the *peuple*'s belief in transcendent sanction of the moral and social order were shaken" because the maintenance of an orderly society "seemed to them to depend upon the continued adherence … to traditional religious and moral beliefs." (page 499). In spite of the downsides in Fontenelle's stratification, his belief in the progress of reason and enlightenment was indeed optimistic.
[24] Cowen & Shenton, *supra* note 16, p. 14.
[25] G. W. F Hegel. *Philosophy of History*, Canada: Batoche Books (2001), p. 477.
The notion of the human potential for *infinite elevation* in Hegel's philosophy negates the classical notion of cyclic development and has been praised although the metaphysical aspect of his idealism is criticized by many philosophers. For Hegel, "the history of the will is nothing but the development of the Idea of Freedom – the laws of *real* Freedom – demand the subjugation of the mere contingent Will – for this is in its nature formal." The concluding paragraph of Hegel's, *The Philosophy of History*,

reads: "the History of the world, with all the changing scenes which its annals present is this process of development and the realization of the spirit." According to Hegel, the *Pure Self* represents "pure subjectivity of personality – which – excludes all that is manifestly objective, all that is evidently Not-Self, but also abstracts from any peculiar conditions that may temporarily adhere to it, e.g. youth, or age, riches or poverty, a present or a future state." (*Notes, page 483*) Hegel's notion of *Pure Self* is different from personal identity of the individual self because it is the abstraction of all human identities. Hegel believed that "it is possible to conceive the "increase and improvement of [mental faculties] indefinitely elevated in the scale of being while yet self- personal identity – is retained."

[26] Cowen & Shenton, *supra* note 16, page 16.

[27] *Ibid.*

[28] *Ibid*, pp. 24, 25.

Saint-Simonians "argued for property to be placed in the hands of 'trustees' [e.g. banks] who would be chosen on the basis of their 'capacity' to decide where and how society's resources should be invested." (page 26) According to them, "the new basis of human 'association' would be 'industrialism' itself guided by 'intellect' and governed by 'sympathy' in place of the prevailing 'egoism' of the 'critical epoch.'(page 23).

[29] *Ibid*, p. 27.

[30] *Ibid*, p. 28.

[31] Des Gasper (2005, 2004) *The Ethics of Development* (Edinburgh University Press) p. 33.

[32] Robert Chambers (2007, 2005) *Ideas for Development* (London, Earthscan) p. 186.

[33] *Ibid.*

[34] *Ibid.*

[35] Gasper, *supra* note 32, pp. 117, 118.

Development has various meanings across the disciplines. "It can refer to the emergence or elaboration or evolution or improvement of almost anything: an idea, a paper, a project, a musical theme, as of the images hidden within exposed photographic film; it is the opposite of envelopment." (Gasper: 27) In biology, it "combines elaboration and unveiling/fruition, to suggest a drawing from inherent potentials to achieve preset ends." This matches the definition of development as 'a stage of growth or maturation or advancement' and "has had great influence in social science too." The scales and agents vary "from cells to organs, to individual persons, families and groups, to localities and subnational regions, countries, the world, and beyond." (Page 28).

[36] *Ibid*, pp. 28, 29.

[37] *Ibid*, p. 29.

[38] *Ibid.*

[39] *Ibid*, pp. 28-31.

[40] *Ibid*, pp. 35, 36.

[41] *Ibid*, p. 36.

The fourth instrumental usage "easily links to neutral definitions of development" such as industrialization; and these definitions are popular "with development seen as providing opportunity to achieve what one wants, allowing choice between different goods and ways of life." (p. 36).

[42] W. W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (3rd Ed. 1991), pp 4 *ff*.

[43] N. Kaldor (1966) *The Causes of the Slow Rate of Growth in the United Kingdom*, Cambridge: Cambridge University Press. P. 54 (in Peter Sheehan (May 2008) "Beyond Industrialization": New Approaches to Development Strategy Based on the Service Sector " *UNU Wider*, Research Paper No. 2008/60.

[44] Baker (2006). *Sustainable Development* (London: Routledge), p. 2.

[45] *Ibid.*

[46] Emperor Haile Sellasie's speech for the First Law Extension program Graduating Class. HSIU, 4 November 1964, *Journal of Ethiopian Law*, Vol. II, No.1 (1965), page iii.

[47] *Ibid* p. ii.

[48] *Ibid*.
[49] Max Weber, (1978, Guenther Ross & Claus Wittich, eds.) *Economy and Society* (Berkley: University of California Press).
[50] David M. Trubek (1972) "Toward a Social Theory of Law: An Essay on the Study of Law and Development" The *Yale Law Journal* Volume 82 No. 1 (82 Yale L. J. 1) at 12.
[51] *Ibid*, 15.
[52] Lan Cao (1997) (1997) "Law and Economic Development: A New Beginning?" Book Review, *Texas International Law Journal*, Vol. 32, p. 555.
[53] Jose A. Ocampo, (2001) "Raúl Prebisch and the development agenda at the dawn of the 21st Century", *CEPAC Review* 76, at 35-37.
[54] Lan Cao, *Supra* note 52, p. 556.
[55] For example: Andre Gunder Frank (1967) *Capitalism and Underdevelopment in Latin America*, London: Monthly Review Press.
[56] David F. Greenberg (1980) "Law and Development in Light of Dependency Theory" *Research in Law and Sociology*, Volume 3, page 138 [in *Law and Development*, Edited by Antony Carty, Dartmouth Publishing Co., 1992] p.98.
[57] Tamrat Zerihun, (1988) "The Development-Underdevelopment Controversy: Comparative Highlights" *Birritu*, No. 38; 18.
[58] Theodore W. Shultz (1979) "Nobel Lecture: The Economics of Being Poor" *Journal of Political Economy*, 1980, Volume 88, No. 41, pp. 639- 651.
[59] Frans J. Schuurman (2000). "Paradigms lost, paradigms regained? Development studies in the twenty-first century" *Third World Quarterly*, Vol. 21, p. 8.
[60] Ha-Joon Chang (2003) *Globalisation, Economic Development and the Role of the State* (London & NY: Zed Books) pp. 159, 165, 170.
[61] Erik Thorbecke (2007). "The Evolution of the Development Doctrine, 1950 – 2005*"*, in *Advancing Development: Core Themes in Global Commons*, Mavrotas & Shorrocks, Editors (New York: Palgrave Macmillan), page 5.
All these concepts equated growth with development and viewed growth in low-income economies " as essentially a discontinuous process requiring a large and discrete injection of investment" such as the 'big push' hypothesis which emphasized "the importance of economies of scale in overhead facilities and basic industries" (p.5). The '*take-off*' principle required "a minimum threshold of the investment to GNP ratio … given the prevailing capital--output ratio" and "the '*critical minimum effect* thesis' called for a large discrete addition to investment to trigger a cumulative process within which the induced income-growth forces dominate induced income-depressing forces"(pp. 5-6).
[62] *Ibid*, p. 6.
[63] *Ibid.*
[64] Jennifer A. Elliot (2006). *An Introduction to Sustainable Development*, 3rd Ed. (London: Routeledge), page 15.
[65] Thorbecke, *supra* note 61, pp. 8, 11.
[66] Hettne, *supra* note 22, p. 2.
[67] *Thorbecke*, *supra* note 61, p. 11.
[68] *Ibid*, p. 12.
[69] *Ibid*, p. 15.
The 1980s also witnessed ideological changes influenced by Reagan's and Thatcher's administrations during which "developing countries were strongly encouraged - if not forced - to rely on the operation of market forces and in the process to minimize government activities in most spheres - not just productive activities" at a time when a strong state was required to effectively balance conflicting measures such as stabilizing balance of payments and simultaneously liberalizing trade. (p. 19)
[70] *Ibid, p. 19.*
[71] Elliot, *supra* note 64, page 24.

[72] *Ibid*, pp. 24, 25.
[73] John Vogler (2003), "Taking Institutions Seriously: How Regime Analysis can be Relevant to Multilevel Environmental Governance", *Global Environmental Politics*, Volume 3, Number 2, May 2003, p.26.
[74] Douglass C. North (1991), "Institutions", *The Journal of Economic Perspectives*, Vol. 5, No. 1. (Winter, 1991), p. 97.
[75] *Ibid*.
[76] *Ibid*, p. 98.
[77] *Ibid*, p. 97.
[78] Ha-Joon Chang (2010), "Institutions and Economic Development: theory, policy and history", *Journal of Institutional Economics* (2011), 7:4, p. 485.
[79] *Ibid*, p. 476
[80] *Ibid*.
[81] *Ibid*.
[82] Ha-Joon Chang (2011), "Reply to the comments on 'Institutions and Economic Development: Theory, Policy and History' ", *Journal of Institutional Economics* (2011), Volume 7: 4, p. 597.
[83] Chang (2010), *supra* note 78, p. 476.
[84] Immanuel Wallerstein, "After Developmentalism and Globalization, What?" (Keynote address at conference, 'Development Challenges for the 21st Century,' Cornell University, Oct. 1, 2004), *Social Forces*, March 2005, 83(3) p. 1264 .
[85] *Ibid*, pp. 1268, 1269.
[86] *Thorbecke, supra* note 61, p.31.
[87] *Ibid.*
[88] *Ibid.*
[89] Ha-Joon Chang (2003), *Kicking Away the Ladder*: Development Strategy in Historical Perspective (Anthem Press), p. 2.
[90] *Ibid*.
[91] *Ibid*, p. 3
[92] *Ibid*, p. 4
[93] *Ibid*.
[94] *Ibid*.
[95] List, in *Ibid*, pp. 4, 5.
[96] List in *ibid*, p. 5.
[97] List in *ibid*.
[98] *Ibid*.
[99] Terutomo Ozawa (2012), "FDI, catch-up growth stages and stage-focused strategies", *Columbia FDI Perspectives*, No. 70 (May 28, 2012).
[100] *Ibid*.
[101] *Ibid*.
[102] *Ibid*.
[103] *Ibid*.
[104] *Ibid*.
[105] David Craig and Doug Porter (2003), "Poverty Reduction Strategy Papers: A New Convergence", *World Development* Vol. 31, No. 1 (Elsevier Science Ltd.) p. 56.
[106] *Ibid* (citing (Held, McGrew, Goldblatt, & Perraton: 1999).
[107] *Ibid*. p. 56 (citing Rodrik, 2000).
[108] *Ibid*. p. 66.
[109] *Ibid*, (citing Porter & Craig, 2002).

[110] *Ibid*. p. 66.

[111] *Ibid.*

[112] *Ibid*, p. 67.

[113] Arturo Escobar (1992) "Imagining a Post-Development Era? Critical Thought, Development and Social Movements," *Social Text, No. 31/32, Third World and Post-Colonial Issues* (Duke University Press), p. 22.

[114] *Ibid*.

[115] *Ibid*, 23,24.

[116] Sally Matthews (2004) "Post-development theory and the question of alternatives: A view from Africa" *Third World Quarterly*, Vol. 25, No. 2, page 373

[117] *Ibid*, 377.

[118] Hettne, *supra* note 22, p. 2.

[119] *Ibid*.

[120] Jan Nederveen Pieterse (2010), *Development Theory* (London: Sage), pp. 13, 29.

[121] *Ibid*, p. 17.

[122] *Ibid*, p. 28.

[123] Hettne, *supra* note 22, p. 2 (for all quotes in the paragraph).

[124] Cox, *supra* note 2, p. 219.

[125] *Ibid*, p. 225.

[126] Wolfgang Sachs (1992), "One World" in *The Development Dictionary*, A Guide to Knowledge as Power, W. Sachs, Editor (London & New Jersey: Zed Books Ltd), p. 103.

[127] Meredith Woo-Cumings, Ed. (1999) *The Developmental State* (Cornell University Press) p. 1.

[128] Peter B. Evans (1989), 'Predatory, Developmental and other Apparatuses: A Comparative Political Economy Perspective on the Third World State," *Sociological Forum*, Vol. 4, No. 4, p. 562.

[129] *Ibid*.

[130] *Ibid*, pp. 562, 563.

[131] *Ibid*, p. 563.

[132] Juhana Vartiainen, "The Economics of Successful State Intervention in Industrial Transformation" in *The Developmental State* (1999), Edited by Meredith Woo-Cumings (Cornell University Press) pp. 218-219.

[133] A. H. Amsden (1989), *Asia's Next Grant,: South Korea and Late Industrialization*, New York: Oxford University Press, p. 144.

[134] Ha-Joon Chang (2010), *23 Things they don't tell you about capitalism*, (London: Allen Lane , Penguin group).

[135] Robert O. Collins (1990), *The Waters of the Nile: Hydropolitics and the Jonglei Canal* (Oxford University Press), p. 279.

[136] Eyal Benvenisti, Collective Action in the Utilization of Shared Fresh Waters (*American Journal of International Law*, July 1996), p. 409, [cited in *Mizan Law Review*, Vol. 1, No. 1, (June 2007) p. 57].

[137] Kefyalew Mekonnen (2002), cited in *Mizan Law Review*, Vol 1, No, 1 (June 2007) at 57.

[138] EtFresh (2011), Focus Hotifloray 2011, Ethiopian Horticulture Producer Exporters Association, March 2011, p. 16.

[139] Mulu Gebreeyesus & Tetushi Senobe (2009), Governance of Global Value Chain and Firms' Capability in African Horticulture.
< http://www.merit.unu.edu/MEIDE/papers/2009/1235983352_MG.pdf> Retrieved: 21 Feb. 2010

[140] *Ibid*.

[141] *Ibid*.

2

"Wellbeing" as an Objective of Ethiopia's Investment Promotion

This chapter briefly addresses the second objective of investment promotion as enshrined under Ethiopian investment law, i.e. improvement of living standards and 'wellbeing' of the Ethiopian people. Sections 2.1 and 2.2 respectively deal with the social and environmental aspects of wellbeing.

The notions of 'standard of living' and 'wellbeing' are not confined to the subjective aspects of wellbeing but are related with the objective conditions of life. According to various indicators (such as per capita or Human Development Index), Ethiopia's position in economic development is relatively low. For the majority of the population, the fulfillment of minimum conditions and the basic necessities is a *sine qua non* condition in the pursuit towards the realization of wellbeing. The economic gains in various sectors of the economy, including floriculture, should thus be examined in light of their contribution to the enhancement of the minimum material conditions and capabilities of citizens.

In most literature, 'standard of living' is considered as "not only the ownership of consumer goods, but also aspects of living that cannot be purchased or are not under an individual's direct control—for instance, environmental quality and services provided by the government".[1] Such wider definitions of 'standard of living' do not undermine the importance of material comfort as one of the core elements in 'standards of living', but include other elements as well. This chapter briefly deals with wellbeing and its context, i.e. environmental quality.

2.1. The Notions of Standards of Living and Wellbeing

2.1.1. Minimum standards of material welfare

Even if value systems influence the conception of 'material comfort', Pigou argues that there should be "a minimum standard in real income". He inquires into the question whether "any annual transference of resources from the relatively rich to the relatively poor is likely to increase the national dividend" and he supports such transferences if it is advantageous to

production and if it increases the real income of the poor. Pigou further states the need for caution where such transferences "diminish the national dividend" and "diminish the real earnings of the relatively poor".[2] However, he underlines that the government should establish "a minimum standard of real income, below which it [should not] allow any citizen in any circumstances to fall".[3] Even if value systems and country/community-specific settings create variations in the subjective aspects of a person's satisfaction in standard of living, Pigou's notion of minimum objective standards requires the satisfaction of minimum material wellbeing which can be ascertained and measured.

> It must be conceived, not as a subjective minimum of satisfaction, but as an objective minimum of conditions. The conditions, too, must be conditions, not in respect of one aspect of life only, but in general. Thus the minimum includes some defined quantity and quality of house accommodation, of medical care, of education, of food, of leisure, of the apparatus of sanitary convenience and safety where work is carried on, and so on.[4]

Pigou makes reference to extreme want which necessitates the transfer of resources to relatively poor persons "without reference to possible injurious consequences upon the magnitude of the dividend." He further notes that "while a relatively poor country makes only a low provision for its 'destitute' citizens, a relatively rich country should make a somewhat better provision for all who are "necessitous".[5] This clearly shows the need for the enhancement of production rather than mere focus on redistribution, because wealth can be distributed only if it can be created. This is why the issue of production should always be considered along with the pursuits of distributive justice to guarantee the minimum satisfaction of the material welfare of citizens.

2.1.2. Sen's conceptions of standard of living and wellbeing

Amartya Sen forwards a conception of standards of living and wellbeing which is broader than the one propounded by Pigou. He relates standards of living with 'quality of living' and notes the following:

> You could be *well* off, without being *well.* You could be *well,* without being able to lead the life you *wanted.* You could have got the life you *wanted,* without being *happy.* .... You could have a good deal of *freedom,* without *achieving* much.[6]

He raises two basic questions regarding objects of value and the magnitude of their value. In this regard he notes that "[t]he more immediate sense of the question lies in the direct and intrinsic

relevance of these objects in the assessment of the standard of living" and "this relevance has to be distinguished from irrelevance on the one hand, and indirect or derivative relevance on the other".[7]

Sen notes three elements of standards of living which he refers to as *opulence*, *functionings* and *capabilities*. He appreciates Pigou's contribution to the discourse on standards of living and, in principle, agrees to Pigou's views on the role of 'real income' in living standards. But Sen believes that Pigou did not go far enough in his analysis regarding the minimum standard [8] that can most effectively promote economic welfare. He raises the question as to who among two poor persons (A and B) has a higher standard of living if one of them (A) has a higher income but "higher metabolic rate and some parasitic disease, so that despite his higher food consumption, he is in fact more undernourished and debilitated".[9]

> . . . 'A' may be richer and more opulent, but it cannot really be said that he has the higher standard of living of the two, since he is quite clearly more undernourished and more debilitated. The standard of living is not a standard of opulence, even though it is *inter alia* influenced by opulence. It must be directly a matter of the life one leads rather than of the resources and means one has to lead a life. The movement in the objectivist direction away from utility may be just right, but opulence is not the right place to settle down.[10]

Under current Ethiopian realities, we can think of two persons working in the same place with different lifestyles. Ato "A" may be a person who is a *khat (chat)* addict who spends about half of his monthly income on *khat* and other drinks for *lulukecha*[11] while his friend "B" does not incur such expenses. The living standards of 'B' is, *ceteri paribus*, higher than 'A' even if the monthly income of the former is half the salary of the latter, because in addition to the expenses incurred, the impact of such addiction on health and overall emotional tranquility adversely affects A's standard of living.

This indicates the need to revisit the current laissez-faire policy trend in the meteorically rising *khat* production and circulation, which at their face value seem to generate revenue at farm level and in foreign exchange earnings. The adverse impact of this wave includes primarily, its negative role in food security (due to the diversion of crop yielding farms to *khat* production) and the resultant rise in food prices, and secondly, the considerable harm to the health, monthly budget and overall emotional and mental wellbeing of citizens. As Sen indicates "[b]eing

psychologically well-adjusted may not be a 'material' functioning, but it is hard to claim that that achievement is of no intrinsic importance to one's standard of living".

Sen recalls Marx's criticism against 'commodity fetishism' and underlines the need to see beyond the role of commodities and material possessions:

> The market values commodities, and our success in the material world is often judged by our opulence, but despite that, commodities are no more than means to other ends. Ultimately, the focus has to be on what life we lead and what we can or cannot do, can or cannot be. . . .[T]he various living conditions we can or cannot achieve [are] our "functionings," and our ability to achieve them [are] our "capabilities."[FN 27][12] The main point here is that the standard of living is really a matter of functionings and capabilities, [13] and not a matter directly of opulence, commodities, or utilities.

Sen states that "some of the same capabilities (relevant for a 'minimum' level of living) require more real income and opulence in the form of commodity possession in a richer society than in poorer ones." After noting the relevance of the satisfaction of basic needs in standards of living, he argues that these "basic needs in the form of commodity requirements are *instrumentally* (rather than intrinsically) important", because "[t]he main issue is the goodness of the life that one can lead." He notes the influence of various "physiological, social, cultural, and other contingent features" that influence the "needs of commodities for any specified achievement of living conditions may" and states that "[t] value of the living standard lies in the living and not in the possessing of commodities, which has derivative and varying relevance."

Sen states John Dewey's views on the distinction "between a person's overall achievements (whatever he wishes to achieve as an 'agent'), and his personal wellbeing".[14] He then discusses agency achievement, personal wellbeing, and the standard of living.[15] Agency achievement targets at "objectives other than personal wellbeing" such as a martyr's personal sacrifice towards a cause. The motivation for such actions may, according to Sen, arise [not only from self-interest but also] from '*sympathy*' or '*commitment*'.

Pursuits that emanate from sympathy can enhance the wellbeing of the person who does an act, while the agent may not personally benefit from commitments. Sen cites the example of helping another person to reduce the latter's misery, which "may have the net effect of making one feel –and indeed *be* – better off".[16] In cases of commitment, however, "a person decides to

do a thing (e.g., being helpful to another) despite its not being, in the net, beneficial to the agent himself." This should, however, be distinguished from the usage of the word 'commitment' for a job, etc which apparently contributes to the person's satisfaction and wellbeing.

> At the risk of over-simplification, it may be said that we move from *agency-achievement* to *personal wellbeing* by narrowing the focus of attention through ignoring "commitments," and we move from *personal wellbeing* to the *standard of living* by further narrowing the focus through ignoring "sympathies" (and of course "antipathies," and other influences on one's wellbeing from outside one's own life). Thus narrowed, personal wellbeing related to one's own life will reflect one's standard of living.[17]

In light of the discussion hereabove, investment can be deemed to have fulfilled the objectives enshrined in the Ethiopian investment legal regime only when it promotes *sustainable development* and where it positively contributes to the *rising standards of living* of citizens which may be interpreted in its wider or narrower meanings. It is, however, to be noted that "the successes and failures in the standard of living are matters of living conditions and not of the gross picture of relative opulence that the GNP tries to capture in one real number".[18] In the context of floriculture, the Senian conception of capabilities can inform the inquiry whether the flower sector has promoted the minimum material wellbeing of its employees and their capabilities.

2.1.3. Pogge's views on freedom from severe poverty

Article 25 of the Universal Declaration of Human Rights provides that "Everyone has the right to a standard of living adequate for the health and wellbeing of himself and of his family, including food, clothing, housing and medical care". Pogge cites this provision and underlines that "[f]reedom from severe poverty is among the most important human interests" because as physical beings we "need access to safe food and water, clothing, shelter and basic medical care in order to live well – indeed in order to live at all".[19] Pogge shows how the present global order causes massive severe poverty "foreseeably, under a global institutional order designed for the benefit of the affluent countries' governments, corporations and citizens and of the poor countries' political and military elite".[20]

Vizard compares Sen's capability approach with Pogge's concept of negative duties in relation with global poverty and human rights. She believes that Sen's approach avoids the 'minimalist normative position' of Pogge.[21] According to Pogge, the positive conception of

freedom from severe poverty is a basic human right based on the general obligations of those 'in a position to help', but it is often implausible because these rights are associated with 'open-ended' duties of assistance and aid.

Pogge argues that the global system bears responsibility for promoting underdevelopment. He emphasizes that the establishment of human rights-based claims should be contingent upon the attribution of causal responsibility - with "derived" positive obligations characterised as being "triggered" by non-compliance with a fundamental negative duty "not to actively cause harm", rather than by fundamental positive duties of assistance and aid (with no "active causality" established). He contends that a class of "positive derived duties" can be characterised as a class of "remedial duties" that follow from a fundamental principle of negative duty (rather than a fundamental principle of positive duty), and that is consistent with the positive duties accepted by libertarians.[22]

In Sen's 'capability approach' human rights directly focus on the valuable things that people can do and what they can be including the capability to be adequately nourished (unaffected by endemic hunger and starvation), to enjoy adequate living conditions (with access to adequate shelter, housing and sanitation), to lead normal spans of life (unaffected by premature mortality or "excess" morbidity) and to read and write (unconstrained by illiteracy and inadequate educational provision.[23] These basic capabilities are linked to claims on others to *respect* the "capability freedom" (through negative acts of omission and non-interference) and to *defend* and *support* the "capability freedom" (through positive acts of assistance and aid). In this way: "Minimal demands of wellbeing (in the form of basic functionings, e.g. not to be hungry), and of wellbeing freedom (in the form of minimal capabilities, e.g. having the means of avoiding hunger)" can be conceptualised as rights that "command attention and call for support".[24]

Vizard believes that Pogge's theory does not necessarily cover all cases of severe poverty unless other agents are causally and morally responsible.[25] In the absence of subordinate evaluation criteria, Pogge's class of 'derived positive rights' i.e. the positive duties of reparation, etc. that arise from violation of the negative obligation not to do harm can be subjected to open-endedness and implausibility.[26] Vizard's conclusion notes that Pogge's class of 'derived positive rights' is critically dependent upon the formulation of subordinate evaluative judgements about the 'adequacy' (unreasonableness) of actions taken to prevent and alleviate severe poverty, and

she appreciates Sen's approach because it extends the theory of human rights to the domain of 'imperfect obligations' and for establishing cross-disciplinary links with international human rights law.[27]

Even if Vizard's views on the issues of minimalist scope and subordinate evaluative criteria are plausible, Pogge's arguments on the duty not to cause harm and the responsibility thereof can be relevant in the context of Ethiopia's flower sector. It can, for example, be related with the investors who cause harm, or other (national or international) entities who cause social and environmental harm through their acts or omission.

2.1.4. 'Rising standards of living' from the perspective of the conspicuous consumer

> For everyone on Earth to live at the current European average level of consumption, we would need more than double the biocapacity actually available - the equivalent of 2.1 planet Earths - to sustain us. If everyone consumed at the US rate, we would require nearly five.
>
> *Growth isn't Working*, NEF Report (2006)

Dauvergne notes that "[a]lthough humans must consume and survive, meeting basic needs accounts for only a fraction of the environmental damage from rising consumption".[28] Hunt and d'Arge compare the greed and desire for "endless acquisition of material wealth and greater consumption" with the aggressive competition of pigs and rats "for more than their share." They envisaged that if rats were to run a competitive economy "[e]ach rational, economizing economic rat or lemming would fight for his own private 'optimum,' as the entire society would be propelled irretrievably toward a deadly sea of environmental degradation. [29]

Sklair defines the culture-ideology of consumerism as "a coherent set of practices, attitudes and values, based on advertising and the mass media but permeating the whole social structure that encourages ever-expanding consumption of consumer-goods".[30] He cites the statements made by researchers in the communications field and states their findings that "transnational media institutions transform the global audience into consumers of transnational commodities through the propagation of a set of self-serving notions of development, communication, organization, daily life and change".[31]

The spread of the culture-ideology of consumerism in China, for example, shows that "Shanghai ranks fourth in per capita income among Chinese cities, [and] is exposed to foreign advertising, and has a high per capita ownership of consumer durables".[32] As Galbraith notes,

"[t]he modern consumer economy is tied in unrelenting fashion to the need for steadily expanding production. Consumption, once the purpose of economic life, has not a supporting role"[33] but instead a role that induces more production and further consumption regardless of ecological sustainability.

Low-income economies are pursuing the footsteps of developed economies in consumerism while developed economies not only are going through spiral decades of affluence, stagnation and recession, but have been unable to raise the level of happiness of the population commensurate with their economic prosperity. In this regard, "the contrast between the material success and social failure in many rich countries is an important signpost".[34] Despite the economic growth in rich countries, there seems to be "long term rises in rates of anxiety, depression and numerous other problems"[35] rather than a steady rise in wellbeing and happiness commensurate with economic growth. Thus, development should have been able to "satisfy the direct needs of the people rather than some abstract notion of national wealth".[36]

There have been the poor, *deprived* of their subsistence needs throughout most of human history. However, "subsistence economies which serve basic needs through self-provisioning" were not (as entities) regarded as poor[37] merely "because they do not participate overwhelmingly in the market economy" and because they do not consume a bulk of "commodities provided for and distributed through the market."[38]

Although, the rich, in a given society, are usually happier than the poor [39] (who are unable to satisfy their basic needs), happiness after a certain threshold of material comfort and standard of living, *inter alia*, "depends not on our absolute wellbeing but instead on how we are doing relative to our reference group".[40] It is to be noted that the happiness treadmill causes us "to rapidly and inevitably adapt to good things by taking them for granted".[41] When we get the next possession or achievement, we "adapt to it as well, and so on. …"[42] In spite of the debate between the extreme and weaker interpretations of the Hedonic Treadmill, both versions agree that after a certain threshold of material wellbeing, further quantitative increases "do little to improve the human lot, at least above the threshold of adequate per-capita income."[43] Daniel Nettle holds a similar view and states that "average levels of happiness have shown no rise over the last half century, despite massive gains in material wealth."[44]

Once material comfort is attained, steady increase in material possessions does not guarantee a corresponding improvement of 'good life.' According to *the flow concept*, for example, "the good life is one that is characterized by complete absorption in what one does".[45] Csikszentmihalyi explains the *flow* as a desired state of life "... in which action follows upon action according to an internal logic ..."[46] and experienced "as a unified flowing from one moment to the next, in which we feel in control of our actions" with "little distinction between self and environment, between stimulus and response, or between past, present and future".[47]

> [In lieu of] self-consciousness, [there is] a sense of transcending ego boundaries, of growth and of being part of some greater totality. The sense of time is altered and usually experienced as passing faster. In the event that the activity is characterised by several of the above dimensions, it is experienced as worth doing for its own sake; i.e. the experience becomes autotelic.[48]

Although the flow concept was formulated in the 1970s, some of its themes share some elements of stoic philosophy. Zeno, for example is said to have "defined happiness as a smooth flow of life".[49] However, the flow concept is different from stoicism. Nor is it utopian. For example, happiness, according to Csikszentmihalyi, is not the product of passive enjoyment but of the capacity to confront challenges and to transform them into a sequence of actions in which the challenges presented accord with abilities to respond to them.[50]

The hedonic treadmill and conspicuous consumerism are inconsistent with the cultural legacy in all parts of Ethiopia which is strongly characterized by sense of sufficiency, sharing and transcendental meanings in life. This legacy should indeed inform policies and pursuits against the vices of conspicuous consumerism which not only will leave the glutton and greedy unsatisfied but would also eat away a significant portion of the foreign exchange obtained from the economic pursuits of low-income countries.

'*Wants*' that impact upon natural resources in the Ethiopian context are aggravated on two fronts: primarily, as a result of subsistence *needs* that are steadily rising due to population growth unmatched by economic development, and secondly, due to consumerist-luxury '*wants*' of 'modernity' mainly through expensive imports. In the realm of material wellbeing, most members of the middle class (and above) in low income economies seem to have internalized the material '*wants*', the consumption patterns and lifestyles of advanced economies before the supply side for such affluence is put in place. Meanwhile, however, the global economic setting

and endogenous realities seem to make it difficult for sub-Saharan African countries to attain the aspirations of economic development envisaged by a spectrum of development doctrines discussed in Chapter 1. The ever expanding gap between 'needs' and 'wants' as a result of steadily rising consumerism is an issue of concern. As Adorno remarks, societies might in the long-run "grow tired of development," and humanity "will begin to have an inkling of the delusory, futile nature of the arrangements hitherto made in order to escape want, which used wealth to reproduce want on a larger scale".[51]

2.1.5. The demographic challenge in enhancing living standards

Since the 1970s there is an increasing awareness about the relationship and "interdependence between economic and demographic variables and the determinants of the rural-urban migration".[52] Low-income economies pay due attention to population policy not because population growth is intrinsically a vice, but because it ought to correspond with the pace of economic development so that every citizen can lead a decent living. Bigger population is desirable whenever the rate of population growth corresponds with overall economic and social development of a country. This is usually possible in population growth induced by *endogenous* factors, i.e., due to internal development in science, technology, health care and internal economic growth which needs bigger population.

Hayami and Godo contrast population growth that occurred during the economic growth of today's advanced economies vis-à-vis the current population growth in low income economies. First, the speed of the latter is faster than the one which occurred in the early development phase of advanced economies.[53] Secondly, population growth in the advanced economies "was essentially an *endogenous* phenomenon induced by accelerated economic growth," increased employment and income. On the contrary, today's population growth in low-income economies "has largely been *exogenous* in nature" mainly attributable to "importation of health and medical technologies from advanced economies".[54]

Population growth unmatched by a higher pace of economic development means that "there is less to go around per person, so that per capita income is depressed".[55] In the case of *endogenously* induced population growth which is driven by economic development, however, "[m]ore people not only consume more, they produce more as well. The net effect must depend on whether the gain in production is outweighed by the increase in consumption".[56]

For instance, soil degradation "during the five decades after 1945 amounted to about two billion hectares or about 17 per cent of total vegetative area in the world"[57] out of which about 80% occurred in Africa.[58] The factors for the degradation are attributed to deforestation (about 30%), overexploitation for fuel wood, fodder, etc. (about 7%), overgrazing (about 35%), agriculture (about 28%) and industrialization (about 1%).[59] Although commercial logging and degradation owing to modern agriculture such as excess of irrigation water and chemicals were identified as factors in the degradation process, "by far the largest cause is identified as the exploitation of natural resources by the poverty-driven population".[60]

Hyami and Godo consider pauperization of the rural population due to population pressure as a "major factor underlying environmental degradation in developing economies" and suggest "increasing employment and income by improving the productivity of the limited land already in use" and underline the need for "shifting from traditional resource-based to modern science-based agriculture" and regulating the "cultivation of fragile land for subsistence in hills and mountains".[61] This in the Ethiopian context requires focus on the increase in productivity per farm site rather than misleading figures of rise in production which mainly arise from expansion of farmland frontiers, which in reality represent decline in natural capital because such frontier expansion brings about decline in natural forests, wildlife, biodiversity and ecosystem sustainability.

> ... [I]n many parts of the world, pressure of population on resources is already so great or threatens to become so great that, however we might define an optimum population, there would be a general consensus that the optimum was exceeded. In such countries heavy population pressure is already an important cause of a low standard of living. ... But in many of these countries heavy population pressure leads to one or other or both of two further evils- to heavy unemployment and/or to great inequalities in the distribution of income.[62]

Meade states three factors, i.e. sparse population, technical progress and capital accumulation as "sets of forces which may prevent the pressure of a larger population on a given limited amount of natural resources from causing a fall in output per head".[63] In the absence or inadequacy of these factors, rise in population, according to Meade, adversely affects standards of living.

Ester Boserup, however, (under some circumstances) regards population growth as a stimulus rather than impediment to economic change[64] because she believes that it can stimulate the enhancement of agricultural output, raising production per unit of land, technology and

labor.[65] This presupposes that dense rural populations resort to change in technical progress and productivity rather than putting pressure on forests, hills and mountains. Such assumptions envisage legal regimes in which the options available to the smallholder farmer exclude the possibility of encroaching on publicly owned (unprotected) lands, fragile terrains and forests. Boserop's assumption also envisages smallholder farmers who have land tenure security which encourages them to develop and offer optimal care to it.[66]

The setting which Boserup has observed is India where private landowners can effectively defend against rural encroachments for farming and grazing, thereby rendering it impossible for farmers to make ends meet unless they raise outputs per unit of land, technology and labor. Meanwhile, however, it must be noted that *laissez faire* private proprietorship of land usually fails to alleviate poverty which is one of the objectives of development. The challenge thus lies in striking a balance that can empower the rural poor through land tenure policies and at the same time put in place a legal regime (including individual land tenure, public ownership and community ownership schemes) that can protect fragile lands and forests from encroachments which ultimately worsen the adverse impact of demographic pressures on standards of living.

2.1.6. Assumptions in the potential social benefits of Ethiopia's flower sector

As Karl Marx observes, "the value of labour is always an irrational expression for the value of labour power" and he notes that the value of labour power is "less than the value it produces"[67] because the owner of capital "always makes labour-power work longer than is necessary for the reproduction of its own value".[68] Marx distinguishes *labour power* whose price is the wage earned by the labourer from *labour* as a function whose value includes not only the wage paid to labourers but also the surplus value created in the process of production. The 'wage' paid to the labourer, according to Marx, is an amount of money that merely enables the worker to buy the material necessities to reproduce labour power.

The first assumption of social benefits in the context of floriculture in Ethiopia is the expectation that the flower sector is in the course of paying 'wage' which at least enables farm workers to 'reproduce' their labour power. As highlighted earlier, Pigou's conception of "minimum standard in real income" at least envisages "some defined quantity and quality of house accommodation, of medical care, of education, of food, of leisure, of the apparatus of sanitary convenience and safety".

The economic benefits in floriculture should thus at least secure the payment of living wages that amount to real income (accommodation, food, medical care, etc.) that can reproduce labour-power. One may validly argue that a 'job' for which such wage is not paid constitutes a mode of employment that results from duress of circumstances. Any mode of employment that cannot secure a remuneration that at least covers accommodation, monthly food expenses, etc. can hardly be regarded as a 'remunerated job'. If for example a girl who lives with her parents in the vicinity of a farm is employed at a daily 'wage' lower than the price of a single lunch, and if the gap steadily grows wider as a result of inflation, the amount that she receives is merely modest income which tops up whatever support she receives from her parents, and not 'wage' *per se*. Moreover, the social benefits in floriculture assume acceptable standards in working conditions, health care standards, and related issues that need utmost attention owing to the intensive use of chemicals and pesticides in flower growing, post-harvest handling and waste disposal.

This study briefly touches upon the level of payments in the flower farms and the challenges that many farms face against raising the amount of remuneration. The fact that flower farms mostly employ female workers can significantly contribute towards women empowerment if the sector actually creates 'jobs' and capabilities that is commensurate with such empowerment which, *inter alia*, positively contributes towards Ethiopia's demographic transition towards slower rate of population growth.

Another assumption relates to the sector's contribution to the social benefits accrued to owners of flower farms, their dependants and beneficiaries. While the economic activities in the sector have brought about considerable welfare loss to the owners of the farms that have been foreclosed or under project distress, the ones that are viable apparently bring about welfare gains to their owners in spite of volatile prices, the challenges in the flower chain and the perishability of the product.

2.2. The Environmental Dimension in Wellbeing

2.2.1. Challenges in environmental sustainability and their roots

As far back as 1848, John Stuart Mill had addressed various concerns including environmental degradation. He underlined that there cannot be human satisfaction if every land is brought under cultivation and if plants are rooted out "as a weed in the name of improved agriculture." Mill warned that the earth will lose a "great portion of its pleasantness" due to population growth and the pursuits towards increasing wealth "for the mere purpose of enabling it to support a large, but not a better or happier population" and expressed his hope that human beings should be "content to be stationary, long before necessity compels them to it".[69] Mill seems to have used the term 'stationary' figuratively as a sharp criticism against environmentally unsustainable patterns of 'growth' and unsustainable consumption.

The direction of progress which low-income economies aspire to pursue involves a steady march towards the stage where advanced economies are today. There was optimism and enthusiasm in the 1950s and 1960s to follow the path of capital accumulation, industrialization and economic growth. This was, however, followed by "re-examination of the process of economic and social development"[70] (since the 1970s) owing to the acute problems encountered in these low-income countries, including Ethiopia in relation with the widening gap between rich and poor countries, the rising proportion of their population in poverty, the pace of rural-urban migration unmatched by the rate of economic development, pressures in balance of payments and increasing level of foreign indebtedness.[71] These problems have been altering their form, intensity and magnitude over the last decades, and have now reached a stage which seems to threaten the very foundation on which their fragile subsistence economies depend on: i.e. their natural resources.

As Haynes observes, currently, there are serious challenges of environmental and economic sustainability in most developing countries on three fronts. *First*, climate change[72] (to which low-income economies have minimal contribution) threatens "medium and long-term viability of current development strategies and policies".[73] *Second*, globalization seems to have put "further pressure on the natural environment as developing countries seek to catch up with their developed counterparts via 'growth first' and industrialization and development strategies".[74] This does not only involve the environmental degradation in the course of pursuits of developing

countries to catch up, but the extensive economic exploitation of their economies by MNEs. And *third*, "the issues of desertification and deforestation and skewed land use patterns are clearly linked" [75] in the progression of environmental degradation.

Over eighty percent of Ethiopia's population lives in rural areas and its livelihood mainly depends on subsistence farming which is adversely affected by change in temperature and rainfall patterns due to climate change. This not only disrupts the pattern and length of various seasons but also causes the extremes of precipitation, floods and famine. As Ethiopia's current development pursuits envisage agriculture as one of the major factors in the take-off towards industrialization, the impact of climate change is apparent.

The second factor stated by Haynes with regard to the impact of globalization is also relevant because it has (as discussed in various sections) the positive impact of technology transfer and opening up markets while at the same time making it difficult for local producers to globally compete in the supply side of economic activities in Ethiopia. On the contrary, cultural globalization (which is steadily nurturing consumerism) accelerates the demand side of imported goods and services. The third factor identified by Haynes (deforestation, desertification and land use patterns) may not, however, be regarded as an independent factor but as a phenomenon which is inseparable from the first factor of climate change in the context of a dialectical cause and effect reciprocity. It is also inseparable from the second factor as long as the extractive and exploitative footprint of 'globalization' (in its current form) merely enhances the financial gains of MNCs and beefs up the wealth of the national elite, at the cost of worsening the livelihood of the rural poor.

Hunter *et al* state that human activity "including industrial economy, is a sub-system of the global ecological system" and its ability "to grow is limited by the physical limits of the ecosystem." They further state that "[a]s human population and economic activity continue to expand, we are increasingly pushing up against the limits of what the biosphere can support".[76] In the process of economic activities, "resources will be consumed and wastes generated"[77] and there is now a growing awareness that the magnitude of pressure on the environment is mainly attributable to factors such as the role of *technology*, pattern of *consumption* and *population* size.

In 1971, Paul Ehrlich, Ann Ehrlich and J. Holdren developed a formula that includes factors which determine the impact of human activities on the environment. And recently, Paul and

Anne Ehrlich wrote: "[t]he overall impact [on the environment] is equal to the product of *Population* size times per capita *Affluence* times the *Technologies* and socio-economic-political systems used to generate the affluence".[78] (I = PAT). However, there is the need for caution because none of these three factors (i.e. technology, consumption and population) is intrinsically harmful to the environment.

Although the formula cannot be uncritically accepted, it gives some picture regarding the adverse pressure exerted on the environment by eco-unfriendly application of technology (and socio-political systems), overindulgent consumerism and population growth (unmatched by socio-economic development). The formula, should not, for example, be interpreted against environmentally sound technological progress, because the letter "T" does not denote increase in technical progress as such, but solely represents the extent to which a given technology and a set of socio-economic-political policies (including the legal regime) have negative or positive impact on the environment.

In the Ethiopian context, the major challenge to environmental sustainability is the rate of population growth without corresponding growth in the supply side of goods and services commensurate with the rise in population. This does not undermine the relevance of technology to the Ethiopian context, because as the case study of this thesis indicates, technology can be a crucial factor that can cause environmental harm (depending on the level of compliance standards) or on the contrary facilitate the benefits that can be obtained from sustainable floriculture as highlighted under chapters 7 and 8.

2.2.2. Limits to resource-dependent economic growth and 'the stationary state'

Over half a century ago, Samuel H. Ordway, (in his book '*Resources and the American Dream, Including a Theory of the Limit on Growth*', 1953) supported the American Dream, but challenged the assumption of a steadily growing momentum in production of goods. Moreover, he contended that restraint from steadily rising industrial production does not represent stagnation and decay. While reviewing this book, J. Russel Whitaker stated that there should be gradual limit in draining "on resources to foreseeable replacements. Along with this must come more general acceptance of the values of life that are not dependent on the consumption of material goods.[79]

Nearly two decades later, there were two conceptions that attracted academic discourse regarding limits to physical economic growth. In 1972, a group widely known as the 'Club of Rome' published a report on "*Limits to Growth*, 1972".[80] The report on "*Limits to Growth*" revealed the exponential growth of population and production thereby advocating limits for the exploitation of natural resources. On the other hand, the *tech-solution model* argued against the notion of limits to physical growth and optimistically envisaged that necessity will lead to innovation and invention thereby making it possible for humans to go through unlimited growth. Four years after the publication of '*Limits to Growth'*, Herman Kahn *et al* published a book titled "*The Next 200 Years: A Scenario for America and the World (1976)*"[81] in support of the *tech-solution model*.

There has been heated discourse between these two views that represent '*the limits to physical growth* model' and 'the *tech-solution* model.' Most supporters of the first model, do not advocate '*limits to growth*, as such', but rather suggest a paradigm shift in the conception of development, and contend that more attention should be given to *human development* and *change in values and lifestyles* rather than steadily rising natural resource-dependent economic growth and consumerism.

Zarsky notes that "[r]apid growth has made East Asia an economic success story. One positive aspect of this is that economic growth accounts for significant improvements in living standards for millions of people throughout Asia." However, she underlines the impact that this has caused on ecological degradation "including the pollution of water and air systems; the rapid depletion of resources such as forests, wetlands and fisheries; and the loss of flora and fauna species".[82] As Passmore observes, human activities in their interaction with nature "do not simply modify a particular quantity of a particular substance" but they also "interact with a system of interactions, setting in process new interactions. Just for that reason there is always a risk that their actions will have consequences which they did not predict".[83]

According to a Report of the New Economic Foundation, even if "in much of human history, having more stuff has given human beings more comfortable lives" thereby enabling economies to grow along with population growth, such economic growth "cannot and need not continue indefinitely".[84] The report cites J. S. Mill and notes that 'It is only in the backward

countries of the world that increased production is still an important object: in those most advanced, what is economically needed is a better distribution".[85]

The previous report of the New Economic Foundation entitled "*Growth isn't Working*" had criticized "the tyranny of numbers" in GNP and the belief that "it is total income that matters, rather than people's quality of life; that growth and distribution are separable, both conceptually and practically; that economic growth has no unmanageable environmental costs; and that power relations are immutably fixed." The report suggests that "If we are to reconcile the objectives of poverty reduction and environmental sustainability, we need to challenge this conventional wisdom, and the blind pursuit of economic growth which springs from it" and the report concludes that "[w]e cannot afford to continue with a system which sacrifices the environment on which we all depend for our very survival to give yet more to those who already have too much, in the hope that a few more crumbs will fall from the rich man's table".[86]

The limits in factor-driven avenues of growth were noted by David Ricardo (1772-1823) who criticizes "Smith's adding-up theory of value and develops a more rigorous and powerful version of the labor theory of value".[87]

> … In Ricardo's vision, workers and landlords consume their incomes, while capitalists largely accumulate. . . . [I] increase in population presses against limited land resources and raises rents at the expense of profits. Eventually profits and the profit rate fall to zero, and the economy stagnates in a *stationary state*. Ricardo's analysis of *diminishing returns* to capital and labor inputs to production is the foundation of neoclassical equilibrium theory, and prefigures contemporary concerns about environmental consequences of unbridled economic growth and the *limits to growth*.[88]

According to Ricardo, as more and more inputs (such as labour or machinery) are used in the production process with a fixed resource such as land, the marginal outputs of the additional inputs diminish.[89] This law of diminishing returns, according to Ricardo, can render a state stationary. In response to such problems, he opposed protectionism, and rather formulated the notion of 'comparative advantage' in international trade which he believed would benefit all trading partners beyond their national frontiers.

Major European powers of the 19th century managed to insulate themselves from Ricardo's forecasts about the risk of a stationary economy through colonialism. At present, the risk of the stationary state is being averted through international trade, FDI outflows in factor-driven

investment projects, focus on efficiency-driven and innovation-driven economies (Section 3.1.1) and other schemes. Technological change and international trade have so far postponed the timeline for stationary statehood in most affluent countries. However, the gap in technology and innovation among countries and the current global trading order which is disadvantageous to low-income economies are not static. Unfortunately, today's developing economies run the risk of reaching such stationary stages (for factor-driven economies) earlier than their predecessors owing to the weaker resource base which might result from population pressures, poverty and mono-route globalization.

2.2.3. Criticism against limits to the exploitation of resources

Writers who criticize *limits* to the exploitation of natural resources argue that economic growth is rather a solution for environmental degradation. According to Peter Huber, humanity cannot go "back to its origins" and be reduced "once again to tribes of nomadic hunter gatherers." Short of that, Huber contends that "poverty is not green at all" and "despite their small appetites – or could it be because of them? – Third World countries manage to generate a lot of garbage, smoke, and trash".[90]

Huber suggests that wealth should be promoted to protect the planet and resolve the problems of scarcity and abundance. "It is wealth – not poverty - that limits family size, limits obesity, limits pollution, limits waste and inefficiency, limits personal consumption." He further contends that "[i]t is the rich, not the poor, who pour their wealth into green. The richer we get, the farther the footprint of our wealth extends to our children, then to our neighbors, then our lands, shores, rivers, lakes and oceans."[91] Huber cites England as an example where "forests were all cut down, first to clear land for farming, then, at a much faster rate, to build warships and provide food." He admits that these forests never grew back. Yet, he argues that "[a]s the wealthier elements of society began to grasp what was being lost, forest conservation rose to prominent concern in seventeenth-century England and France. Then England found a substitute – coal".[92]

Beckerman supports this view from a different perspective, and believes that humankind "will never run out of any supply" of resources because "a wide variety of economic forces are set in motion to remedy the situation" whenever "demand for any particular material begins to run up against supply limitations".[93] Such market forces, according to Beckerman "start with a

rise in price, which, in turn leads to all sorts of secondary favorable feedbacks – notably a shift to substitutes, an increase in exploration and technical progress that brings down the costs of exploration and refining and processing as well as the costs of the substitutes".[94] He also argues that the process is so gradual that it allows "time for economies to adapt".[95] Beckerman contends that sacrifices should not be made in the interests of future generations because "one should take account of the strong likelihood that the latter will be far richer than the former".[96]

Farber argues against extremes and states that "[m]any environmentalists consider the economic approach crass and blind to deeper values. They are fond of the saying that an economist is someone who knows the price of everything, but the value of nothing." He further points out that economists, on the other hand, "consider environmentalists to be hopeless romantics, eager to pursue their own personal values without heeding the cost to society".[97] He thus suggests the need for a pragmatic middle course that synthesizes the concerns of economists and environmentalists.

Critics of '*limits'* to quantitative physical growth do not suggest total neglect of the problem of environmental degradation. To some extent, their position seems to be supported by a World Bank Report which states that "[t]he key to growing sustainably is not to produce less but to *produce differently*".[98] Nor does the notion of "*limits to growth*" denote *limits* to technical progress as such (including efficiency and innovation-driven growth), because such economic activities other than the ones that are factor-driven do not depend on exhaustible resources. There is thus the potential for synthesis that addresses the concerns of both views.

It is also to be noted that '*limits to growth*' in the context of low-income and middle-income economies, solely means 'future limits to unsustainable growth' because they have technological and other gaps to catch up. In fact, low-income economies "have a higher marginal rate of return to physical capital because of its shortage relative to *unskilled labor*; but the very same countries also have a shortage of human capital, and this drags down the rate of return to physical capital".[99] Hyami and Godo observe that "the later an economy's start towards industrialization, the larger becomes the accumulation of technologies that economy can borrow, so that the speed of industrialization and economic growth is faster than those of early starters"[100] if the requisite institutional innovations such as human capital, capital accumulation and developed banking systems are put in place.

2.2.4. Avenues of potential environmental risk in Ethiopia's floriculture

As highlighted in Chapters 7 and 8, the water consumption of flower farms is very intensive. There is also the risk of discharge of chemical and pesticide residues to surface and ground freshwater resources. Moreover, green waste disposal can adversely affect neighbouring smallhold farmers and the environment at large. Flower growing that uses soil as medium rather that hydroponics has adverse impact on the sustainable fertility of the soil as discussed in Chapter 8. Although the good practices of hydroponics and substituting pesticides by Integrated Pest Management (through predatory mites) in some farms are commendable, the magnitude of success towards sustainable floriculture depends upon scaling them up in all farms.

Initially, Environmental Impact Assessment was not a precondition for the issuance of licence because it was relegated as an issue that can be addressed by the Ethiopian Environmental Protection Authority and the investor.[101] As the interview with Ato Legesse Geleta (Oromia Investment Commission) indicates, events have developed in the right direction and Environmental Impact Assessment is required before the issuance of investment permits.[102] The interview with the head of the region's environmental protection agency also verifies this fact. Ato Mohammed Ibrahim notes that "although earlier practices were loose, land has not been granted for any economic activity without prior Environmental Impact Assessment during the last two years".[103]

As highlighted in Chapters 1 and 2, the twin objectives of investment promotion in Ethiopia, i.e. development and rising standards of living clearly transcend economic growth and include social wellbeing in the context of environmental sustainability. The balance benefits from the framework of the three *interdependent* (economic, social and environmental) *pillars* of sustainable development and the *underpinning* factor of *good governance*[104] (which is an equally important *foundation* for the pillars) because it represents (public and private sector) governance, institutional capabilities (formal and informal) and resource mobilization in course of the economic, social and environmental pursuits of sustainable development. Chapter 3 examines the factors and methods that can inform the balance, and the fourth chapter deals with the institutional and governance aspects of the balance under Ethiopia's legal framework.

* * *

Notes

[1] Robert E. Gallman (2003), Dictionary of American History, <http://www.encyclopedia.com/doc/1G2-3401804013.html>, Accessed: 10 Feb. 2012.

[2] Arthur C. Pigou (1932), *The Economics of Welfare*, Fourth Edition (London: McMillan & Co.). Part IV, Chapter XII.

[3] *Ibid*.

[4] *Ibid.*

[5] *Ibid.*

[6] Amaarty Sen (1985), *The Standard of Living*, Tanner Lectures on Human Values, Delivered at Cambridge University (March 11 -12, 1985).

[7] *Ibid.*

[8] *Ibid.*

[9] *Ibid.*

[10] *Ibid*

[11] It is the notion that alcohol (as tranquilizer) can reduce the stimulant effects of *khat* so that the user can have sound sleep.

[12] Sen's Footnote 27 in The Tanner Lectures on Human Values: See *Resources, Values and Development* (Oxford: Blackwell, and Cambridge, Mass.: Harvard University Press, 1984), Introduction and essays 13-20.,

[13] Sen elaborates *functionings* and *capabilities* as follows:

> A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they are different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead. [FN 33].
>
> (*Tanner Lectures*, pages 48-49).

[14] In Footnote 15 of the Tanner Lectures, Sen cites John Dewey Lectures, *Journal of Philosophy* 82 (1985).

[15] Sen's Footnote 16 reads: "I am grateful to Bernard Williams for suggesting this way of clarifying the distinction between well-being and living standard (though he would have, I understand, drawn the boundaries somewhat differently).

[16] Sen, Tanner Lectures, *supra* note 6.

[17] *Ibid.*

[18] *Ibid.*

[19] Thomas Pogge (2007), "Severe Poverty as a Human Rights Violation", in *Freedom from Poverty as Human Rights*, T. Pogge, Editor (Oxford University Press), p. 11.

[20] *Ibid*, p. 52.

[21] Polly Vizard (2006), "Pogge -vs- Sen on Global Poverty and Human Rights", *Ethics and Economics*. 3(2).

[22] *Ibid*, p. 8.

[23] *Ibid*, p. 3.

[24] *Ibid*, pp. 3, 4.

[25] *Ibid*, pp. 10, 11.

[26] *Ibid*, p. 11.

[27] *Ibid*, p. 18.

[28] Peter Dauvergne (2008), *Shadows of Consumption: Consequences for the Global Environment* (The Cambridge & London: MIT Press) p. 222.

[29] E. K. Hunt & Ralph C. d'Arge, "On Lemmings and Other Acquisitive Animals: Proposition on Consumption", *Journal of Economic Issues*, Vol. VII, No. 2, June 1973, pp. 337, 338.

[30] Leslie Sklair (1997), "Summary of the Culture-Ideology of Consumerism in the Third World " in *The Consumer Society*, Goodwin et al (eds), Island Press, p. 320 .

[31] *Ibid*, page 322.

[32] Leslie Sklair (1997), "Summary of The Culture-Ideology of Consumerism in Urban China" in *supra note* 145, p. 323.

[33] John Kenneth Galbraith, [in the Consumer Society], *supra* note 145, page xii.

[34] Richard Wilkinson and Kate Picket (2009), *The Spirit Level*: Why More Equal Societies Almost Always Do Better (Allen Lane). p.4.

[35] *Ibid*, 6.

[36] Sammy Adelman and Abdul Paliwala (1993), *Law and Development in Crisis* (Hans Zell Publishers, Published for the Centre of Modern African Studies, University of Warwick) p. 7.

[37] Vandana Shiva, (1988), *Staying Alive: Women, Ecology and Development* (London: Zed), p. 10, in Jan Nederveen Pieterse, "After post-development," *Third World Quarterly*, Vol. 21, No. 2 (2000) p. 177.

[38] *Ibid.*

[39] Gregory Clark (2007), *Farewell to Alms:* A Brief Economic History of the World (Princeton University Press), p.16.

[40] *Ibid.*

[41] Martin E.P. Seligman (2002), *Authentic Happiness* (N.Y: Free Press) p. 49.

[42] *Ibid.*

[43] Daniel Kahneman, Ed Diener, and Norbert Schwarz (1999, Paperback edition 2003) *Well-being: The Foundations of Hedonic Psychology* (NY: Russel Sage Foundation), p. 14.

[44] Daniel Nettle (2005, Reprinted 2009), *Happiness*: The Science Behind Your Smile (Oxford University Press) p. 176.

[45] Jeanne Nakamura & Mihaly Csikszentmihalyi, "The Concept of Flow", in *Handbook of Positive Psychology* (2004), C. R. Snyder, & S. J. Lopez, Editors (New York: Oxford University Press), p. 89.

[46] M. Csikszentmihalyi (1975), "Play and Intrinsic Rewards" *Journal of Humanistic Psychology* 5(3) at 43. In Bloch, *infra* note 50.

[47] *Ibid.*

[48] M. Csikszentmihalyi (1993), *The Evolving Sense of Self* (New York: Harper Collins Publishers), pp. 178, 179 in Bloch, *infra* note 50.

[49] J. M. Rist (1977), "Zeno and Stoic Consistency", *Phronesis*, Vol. 22, No. 2 (Brill), p. 161.

[50] Charlotte Bloch (2000), "Beyond Fluidity and Rigidity. A Phenomenological Investigation", *Human Studies*, Vol. 23, No. 1 (Springer), p. 45.

[51] T. W. Adorno (1993) [1951], *Minima Moralia*, London: Verso, p. 156-57, [in Cowen, M. P. & Shenton, R. W. (1996), *Doctrines of Development*, London & New York: Routledge, page 476].

[52] Erick Thorbecke (2007), "*The Evolution of the Development Doctrine*, 1950 – 2005", in *Advancing Development: Core Themes in Global Commons*, Mavrotas & Shorrocks Editors (New York: Palgrave Macmillan), p. 13.

A number of empirical studies generated hypotheses that "highlighted the complex nature of the causal relationship between population growth and economic development" and explained migration to urban centers "as a function of urban--rural wage differentials weighted by the probability of finding urban employment." (Thorbecke, p. 13).

[53] Yujiro Hayami and Yoshihisa Godo (2005), *Development Economics: From the Poverty to the Wealth of Nations*, 3rd Ed. (New York: Oxford University Press), p. 63.

[54] *Ibid*, 64

[55] Debraj Ray (1998), *Development Economics* (New Jersey: Princeton University Press), p. 326.

[56] *Ibid*, p. 326.

[57] Hayami and Godo, *supra* note 53, p. 53.

[58] *Ibid.*

[59] *Ibid.*

[60] *Ibid.*

[61] *Ibid*, p. 226.

[62] J. E. Meade (1967), "Population Explosion, the Standard of Living and Social Conflict", *The Economic Journal*, Vol. 77, No. 306 (Jun., 1967), p. 236.

[63] *Ibid.*

[64] W.T.S. Gould (2009), *Population and Development* (London & NY: Routledge), p. 63.

[65] *Ibid.*

[66] "Ethiopian farmers are less likely to plant trees and build terraces to protect against erosion – and more likely to increase use of fertilizer and herbicides – if their rights to land are insecure." World Bank, *World Development Report 2005, A Better Investment Climate for Everyone* (New Your: World Band and Oxford University Press), p. 81.

[67] Karl Marx (1887, 1890), *Capital*, A Critique of Political Economy, Volume 1, (Moscow: Progress Publishers, 1954, 1977), p. 505.

[68] *Ibid*.

[69] John Stuart Mill (1985) [1848], *Principles of Political Economy*, Harmondsworth: Penguin, pp. 115-17 (in Cowen, M. P. & Shenton, R. W. (1996), *Doctrines of Development*, London & New York: Routledge. page 41.)

[70] Thorbecke, *supra* note 52, p. 11.

[71] *Ibid.*

[72] As UN Secretary-General Ban Ki-moon stated in his opening remarks to the United Nations Climate Change Summit Plenary (on 22 Sept, 2009), Africa is the most vulnerable continent where "climate change threatens to roll back years of development gains." He also expressed his concern that climate will "increase pressure on water, food and land, reverse years of development gains, exacerbate poverty, destabilize fragile states and topple governments."

UN News Center <http://www.un.org/apps/news/infocus/sgspeeches/statments_full.asp?statID=582#> (Accessed: 20 December 2009).

[73] Jeffrey Haynes (2008), *Development Studies*, (Cambridge, UK: Polity Press) p. 158.

[74] *Ibid.*

[75] *Ibid.*

[76] David Hunter *et al* (2007), *International Environmental Law and Policy*, Third Edition (NY: Foundation Press) pp. 32, 33.

[77] *Ibid*, p. 44.

[78] Paul R Ehrlich and Anne H. Ehrlich (2008), *The Dominant Animal: Human Evolution and the Environment* (Washington, Covelo, London: Island Press) p.205.

[79] J. Russell Whitaker, *Geographical Review*, Vol. 44 No. 4 (October 1954) p. 610.

[80] Donella H. Meadows et al. (1972), *The Limits to Growth*: A Report for the Club of Rome's Project on the Predicament of Mankind.

[81] Herman Kahn, William Brown, and Leon Martel (1976), *The Next 200 Years: A Scenario for America and the World* (New York: William Morrow).

[82] Lyuba Zarsky (1997), "The Asia-Pacific Economic Cooperation Forum and the Environment: Regional Environmental Governance in the Age of Economic Globalization" *Colorado Journal of International Environmental Law and Policy*, Volume 8) p. 329.

[83] John Passmore, "Attitudes in Nature", in *Environmental Ethics* (1995), Robert Elliot, Editor (Oxford University Press) p. 137.

[84] Simms, Andrew et al (2010). *Growth isn't Possible: Why we need a new economic direction*. London: New Economic Foundation, p. 8 <http://www.neweconomics.org/publications/growth-isnt-possible>

[85] *Ibid.*

[86] David Woodward and Andrew Simms (2006), Growth isn't Working: The Unbalanced Distribution of benefits and costs from economic growth (London: New Economic Foundation), p. 25. http://www.networkideas.org/doc/feb2006/New_Economics_Growth.pdf.

[87] Duncan K. Foley (1997), *Notes on the Theoretical Foundations of Political Economy*, p. 6. <http://homepage.newschool.edu/~foleyd/poleconprint.pdf>, Last accessed: 21 September 2011

[88] *Ibid*.

[89] David Ricardo (1815), *Essay on the Influence of a Low Price of Corn on the Profits of Stock* (London: Printed for John Murray).

[90] Peter Huber (1999), *Hard Green*: Saving the Environment from the Environmentalists, A Conservative Manifesto**,** (N.Y: Basic Books), p. 140.

[91] *Ibid*, p. xxvi.

[92] *Ibid*, p. 101.

[93] Wilfred Beckerman (2003), *A Poverty of Reason: Sustainable Development and Economic Growth* (Okland, California, The Independent Institute), p.13.

[94] *Ibid.*

[95] *Ibid*, p. 14.

[96] *Ibid*, p. 18.

[97] Daniel A. Farber, *Eco-Pragmatism: Making Sensible Environmental Decisions in an Uncertain World*, (1999) Chicago and London: The University of Chicago Press, p. 35.

[98] The World Bank (1992), *World Development Report 1992: Development and the Environment* (Washington DC: World Bank) p. 36.

[99] Ray, *supra* note 55, p.123.

[100] Hayami & Godo, *supra* note 53, p. 349.

[101] Mulugeta Getu (2009), "Ethiopian Floriculture and Its Impact on the Environment: Regulation, Supervision and Compliance", *Mizan Law Review*, Vol. 3, No. 2, p. 256.

[102] Interview with Ato Legesse Geleta, Oromia Investment Commission, 28 November 2011.

[103] Interview with Ato Mohammed Ibrahim, Oromia Rural Land and Natural Resource Administration Authority Vice Head, Environment Protection Core Process Leader, 07 June 2012.

[104] Although this factor is not a new theme in academic and policy discourse (for example, "Governance for Sustainable Development: Five OECD Case Studies" OECD, 2002), it is currently gaining more attention.

3

Factors, Challenges and Methods in the Investment, Development and Environment Balance

Chapters 1 and 2 address the *WHY* aspect of the investment-environment balance. This chapter takes the discussion further and deals with the factors, challenges and methods that can inform the inquiry as to *HOW* the investment promotion and environment protection balance can be determined. Section 3.1 deals with the key factors in sustainable investment promotion and examines the issue whether social and environmental compliance standards discourage domestic and foreign investment in sustainable floriculture. Section 3.2 briefly explores the economic opportunities and environmental risk involved in the process of determining the investment-environment balance in economic activities. The challenges in cost-benefit analysis of environmental assets, the role of environmental mainstreaming and the schemes of impact assessment that can inform the efforts toward balancing the promotion of investment with environmental protection are briefly addressed in Sections 3.3 and 3.4. The last section forwards a brief synthesis regarding the transition from 'trading off' environmental compliance towards greener 'codes of practice'.

3.1. Factors in Sustainable Investment Promotion

Low-income economies at times tend to tolerate low environmental compliance standards in the course of their attempts to 'encourage' investment (both local and foreign). However, whether the '*race to the bottom*' (towards weak environmental compliance standards) can bring about viable investment in sectors such as sustainable floriculture needs to be carefully examined. This necessitates a closer look at the major factors that are conducive to sustainable investment promotion, productivity and national competitiveness.

3.1.1. Key factors of national competitiveness in factor driven investments

Growth in production can be attributed to "increases in factor inputs" such as the expansion of farmland or it may be attributed to "increases in output per unit of input (productivity)".[1] While the former targets at frontier expansion, the latter relies on productivity and competitiveness. Setting aside 'extractive' investment projects that primarily aim at the extraction of environmental assets, value adding investment projects target at host nations based on national competitiveness and productivity. Competitiveness can be defined as "the set of institutions, policies, and factors that determine the level of productivity of a country".[2]

> The level of productivity, in turn, sets the level of prosperity that can be earned by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time.[3]

The World Economic Forum identifies the following 12 pillars[4] of national competitiveness:

Basic requirements: Key for *factor driven* economies

1. Institutions
2. Infrastructure
3. Macroeconomic environment
4. Health and primary education

Efficiency enhancers: Key for *efficiency-driven* economies

5. Higher education and training
6. Goods market efficiency
7. Labor market efficiency
8. Financial market development
9. Technological readiness
10. Market size

Innovation and sophistication factors: Key for *innovation-driven* economies

11. Business sophistication
12. Innovation.

Although these factors are interrelated, the report relates the role of these pillars particularly with the stage of the development of the host economy and nature of the investment. In factor-driven investments, "countries compete based on their factor endowments—primarily unskilled labor and natural resources" and potential investors "compete on the basis of price and sell basic products or commodities, with their low productivity reflected in low wages".[5]

A nation's competitiveness in factor driven investments "primarily hinges on well-functioning public and private institutions (pillar 1), a well-developed infrastructure (pillar 2), a stable macroeconomic environment (pillar 3), and a healthy workforce that has received at least

basic education (pillar 4)".[6] The flower sector is predominantly factor driven, in addition to which it is also efficiency and innovation-driven.

The 2012 Global Competitiveness Report explains the twelve pillars in national competitiveness, among which the key four pillars that determine competitiveness in factor-driven investments are defined as follows:[7]

a) *Institutions* (…' determined by the legal and administrative framework within which individuals, firms, and governments interact to generate wealth" including *inter alia* the nature of property rights, markets, excessive bureaucracy and red tape, overregulation, corruption, dishonesty in dealing with public contracts, lack of transparency and trustworthiness, and political dependence of the judicial system);
b) *Infrastructure* (modes of transport, "electricity supplies that are free of interruptions and shortages so that businesses and factories can work unimpeded", "solid and extensive telecommunications network allows for a rapid and free flow of information, which increases overall economic efficiency" …);
c) *Macroeconomic environment* (level of interest payments on its past debts and running fiscal deficits, inflation rates, etc);
d) *Health and primary education* (the level of health services and primary education towards a healthy and productive workforce).

3.1.2. Major factors that attract investment

The major factors in the attraction of investment include peace and political stability, local markets as a result of stiff import policies, preferential treatment schemes to third country markets (such as AGOA[8] and EBA[9]), the desire of foreign investors to avoid product transportation cost where there is big market size, the quality of infrastructure, the ease of doing business (including incorrupt and efficient services and practices at various levels), the availability of the skills necessary for the investment, labour cost, investor protection including guarantee against expropriation, predictable enforcement of property rights and contractual claims, non-volatile exchange rates,[10] the manner of trade deficits and non-discriminatory environmental compliance standards. The 'new institutional economics' and collective action doctrines suggest that "appropriate institutions and rules of the game are essential to provide pro-development and anti-corruption incentives" and "also suggested broad guidelines in building institutions that reduced the scope for opportunistic behaviour".[11] Institutional capability that is

conducive to investment refers to indicators such as "predictability of rule-making, perception of political stability, crime against persons and property, reliability of judicial enforcement and freedom from corruption".[12]

One of the doctrinal contributions of the 1980s was the "the link between trade and growth. Outward-orientation was "correlated with growth. Countries that liberalised and encouraged trade grew faster than those that followed a more inward-looking strategy".[13] However this envisages a certain level of absorptive capacity to benefit from the potential for technological and productivity spillovers, a significant rise in the supply side of goods and services, the purchasing power of local consumers and the level of efficiency in the process of exports and imports.

Export oriented FDI and investment projects that need a significant volume of imported raw materials are attracted to locations that have direct access to marine and rail transport. As Dam observes, a "landlocked country may find it difficult to develop export markets" because "[b]eing landlocked is not as favourable geographically as being situated where oceangoing vessels can reach world market.[14] Melaku has a similar view regarding the negative impact of Ethiopia's landlockedness.[15] There are, however, notable exceptions such as Switzerland that are landlocked and yet prosperous. This can be attributable to variables such as significant economic activities in the sector of services like banking, highly competitive production sectors such as watches, transport infrastructure and Switzerland's prudent diplomacy of neutrality in times of war and conflicts.

Dam states that governance is one of the factors that can attract FDI[16] and there can be a significant rise in the willingness of firms to invest if they have confidence in the courts.[17] He also discusses the correlation between rates of investment with the existence of informal norms and social capital which strengthen generalized trust in effectiveness of contracts,[18] reliability of judicial enforcement of contractual claims and property rights,[19] low crime rate,[20] land title that enables farmers to raise capital through mortgage.[21] Dam suggests institutional approach with regard to the role of law and legal institutions in economic development.[22]

According to Bellak and Leibrecht, recent "empirical studies (e.g. Bénassy-Quéré *et al*., 2007;[23] Bellak *et al*., 2009[24]) confirmed that both lower taxes and improved infrastructure exert a considerable influence upon multinational enterprises' decision to invest in a particular

country" under comparable location factor variables such as market size and labor costs.[25] Bellak and Leibrecht also noted that the negative effect of taxes "vanishes for countries with relatively high levels of infrastructure (see also Bénassy-Quéré *et al*., 2007)".[26] In other words, "infrastructure generates specific advantages of a location which allow higher taxes on profits from FDI without discouraging such investment".[27] This shows that prime factors such as infrastructure can offset secondary factors such as high taxes which lower the amount of FDI profit per unit of production. Similarly, environmental compliance standards that may involve cost can reduce FDI profit per unit of production, but do not usually constitute grave impediments in the production and distribution process analogous to the prime factors such as poor infrastructure and institutions.

3.1.3. Environmental compliance standards in the attraction of foreign investment

The issue of environmental compliance standards as a factor of attracting or repelling foreign investment is controversial. Environmental costs constitute a small portion of total investment cost and consistent statistical evidence has not been found that differences in environmental standards affect FDI.[28] However, case studies indicate that in certain industries, "such as leather tanning, more stringent standards in OECD countries propelled companies to shift production to countries with lower standards".[29] The hypothesis of the *pollution haven effect* holds that "a tightening up of pollution regulation will, at the margin, have an effect on plant location decisions and trade flows".[30] According to this hypothesis strong environmental standards will push pollution-intensive industries to countries with weaker environmental policies. However, Coperland and Taylor note that "there is little convincing evidence to support the pollution-haven hypothesis".[31]

On the positive front, there is a growing trend towards Environmentally Sound Technologies (EST) which can give investors *goodwill* and *enhanced market* if it is known to their target customers that they operate under strict environmental compliance standards. Many Multinational Enterprises (MNEs) "have come to understand that '*environmental friendliness'* is a major part of their public image building strategy and can affect consumer attitudes toward the firm's products".[32] For example, "[m]ajor oil and gas companies have been particularly anxious to publish annual health, safety and environment reports".[33]

Foreign investors with Environmentally Sound Technology (EST) are not scared away by environmental compliance standards but rather require express publicity of the standards and their *stability* over a given period of time, such as five years, even if the investment usually lasts far beyond such period. This is owing to the need for security against instability in environmental compliance standards after negotiations are already done on the basis of existing standards. Thus it "must be emphasized that regulatory stability is crucial to foreign investment, that foreign investment and strict environmental regulation together are an indispensable vehicle for EST transfer, and that EST transfer is paramount for the goal of sustainable development".[34]

> It should be noted that what is at stake is not the trade-off 'high investment-low environment,' but 'continued investment-regulatory change.' Put another way, governments in developing or transition economies should try to strike a balance between attracting investment and progressively upgrading domestic environmental protection. Thus, the problem is not that MNEs would not like to adopt high environmental standards –often they already use comparatively high standards– rather they do not want to be confronted with economic costs flowing from regulatory changes that were unanticipated at the time of the investment decision.[35]

Verhoosel suggests *stability provisions* in investment laws and particularly contracts which state that "the contractual rights and fiscal regime applicable at the time of making the investment will not be altered".[36] He argues that such stability provisions can encourage Foreign Direct Investment in Environmentally Sound Technology (EST) and enable the host country to put in place the requisite environmental compliance standards which should be communicated to potential foreign investors during contractual negotiations. The downside of such *stability provisions* is the stiff commitment against upgrading environmental compliance standards which may be required by unfolding realities that can affect the environment. Host countries can thus determine the nature of stability provisions based on the strength and fulfilment of the various factors conducive to FDI, the duration of the agreement and the potential for prospective change in environmental effects that might require higher compliance standards.

3.1.4. Dispute settlement in the attraction of foreign investment

One of the concerns of foreign investors relates to settlement of disputes. Since the 1990's, the trend is in favour of foreign investors which "is perhaps most evident in the new rights it gives to investors in disputes with host governments".[37] For example, "NAFTA's[38] Chapter II, as well as

most BITs [i.e. Bilateral Investment Treaties] grant investors the right to directly sue host governments in a variety of international tribunals. In earlier, times, such disputes were handled state-by-state by host and home county governments".[39] This has opened "the door to an attack by TNCs on the host government's right to regulate" and during the last five years, there are incidences in which "TNCs have sued host governments for enacting domestic environmental and health policies which could adversely impinge on company revenues".[40]

Host countries usually desire to have disputes settled in their own jurisdiction. MNEs, on the other hand, opt to have disputes settled in venues outside the jurisdiction of the host state. This desire of MNEs is related with the degree of their perception of the predictability of judicial decisions in the host country regarding property rights and contractual claims and their confidence in the fairness and independence of the judiciary. Equally important is the confidence of MNEs in the efficiency and non-corrupt services of regulatory administrative agencies.

A factor of attraction in this regard can be the host state's ratification of the Convention on the Settlement of Investment Disputes between States and Nationals of Other States which has led to the establishment of ICSID (International Centre for Settlement of Investment Disputes). The Convention was formulated by the World Bank in 1965, and it now has over one hundred and forty member states.[41] Ethiopia has signed the Convention in 1965, but has not yet ratified it. ICSID provides facilities for conciliation and arbitration of international investment disputes and seeks "to remove major impediments to the free international flows of private investment posed by non-commercial risks and the absence of specialized international methods for investment dispute settlement".[42] It is to be noted that recourse to the ICSID facilities is always subject to the parties' consent.

3.1.5. The impact of weak environmental compliance on product standards

a) MIGA's performance standards in environmental compliance

Traditionally, the concern of the international legal regime on foreign investment was confined to the treatment of foreign investors and issues related to property. There is now increasing concern regarding social and environmental standards. A case in point is MIGA's [43] performance standards in the realms of:

- social and environmental assessment and management system,
- labor and working conditions,

- pollution prevention and abatement,
- community health, safety and security,
- land acquisition and involuntary resettlement,
- biodiversity conservation and sustainable natural resources management,
- indigenous peoples, and,
- cultural heritage.[44]

These eight requirements pay particular attention to "a consistent approach to avoid adverse impacts on workers, communities, and the environment, or if avoidance is not possible, to reduce, mitigate, or compensate for the impacts, as appropriate." Moreover, these standards "provide a solid base from which [investment projects] may increase the sustainability of their business operations".[45] The standards are thus conducive to the formulation and enforcement of environmental compliance standards.

b) Export product standards and environmental compliance

The Sanitary and Phytosanitary (SPS) Agreement which is among the legal regimes under the WTO system, (subject to the conditions set forth in the Agreement) allows setting forth safety standards for imported food and agricultural products in order to protect customers. Penetration into the markets of developed countries depends upon the ability of exporters from developing countries "to meet increasingly more stringent food safety standards imposed in developed countries".[46] Food safety "is a 'luxury' good whose demand rises as income levels rise, and greater prosperity tends to be accompanied by increased demand for more stringent SPS standards in developed countries".[47]

Similarly, the Agreement on Technical Barriers to Trade (TBT) deals with technical regulations, standards and conformity assessment.[48] Moreover, there are standards that are determined by private corporations on the basis of the demand of their customers. Private standards are gaining momentum owing to the current willingness of consumers in developed economies to pay high prices for high quality food products, such as organic food, and environmental friendly production processes. Some issues related with (mandatory, voluntary and private) product standards are discussed at some length in Section 5.4.

Even if low income economies may (in forums such as the WTO) criticize certain standards in developed economies as protectionist, it is technically difficult to invoke similar arguments

against standards that are set by the private sector because the WTO legal regime applies to member states and not to private enterprises. Private standards such as good agricultural practice (GAP) involve additional cost owing to the need to meet higher standards, audits and different certification levels[49] required by varying quality thresholds. In the flower sector, for instance, the quality expected from Ethiopian flower exporters to meet certain standards has significantly affected the revenue that was expected to be earned from foreign market thereby leading some exporters to look for other markets with lower import standard thresholds. Thus, weak environmental standards can ultimately affect the marketability of the product itself.

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As highlighted above, environmental compliance standards are not among the prime factors (such as infrastructure, political stability, good governance, etc.) that impede investment. Moreover, it is to be noted that the major factors need to be holistically addressed. The concept of *multiple equilibria* perceives problems in economic development "as a massive coordination failure, in which several investments do not occur simply because of the absence of other complementary investments; and similarly, these latter investments are not forthcoming because the former are missing".[50] According to this concept "[i]nstitutions and policies might be viewed as tools for moving an economy out of one (bad) equilibrium into another (good) one".[51]

3.2. Risks and Opportunities in the Investment-Environment Nexus

The desire for economic development may induce policies and legal regimes towards encouraging investment projects in spite of adverse environmental effects; while on the contrary, the sustainability of the ends that investment is meant to serve (i.e. profit, capital accumulation, development and 'wellbeing') necessitate the protection of the environment. An investment project offers various economic opportunities whose benefits can be eroded by the corresponding cost incurred due to environmental compliance standards. These economic opportunities might even be lost in case the project is denied licence owing to its failure to meet an environmental policy requirement. On the other hand, allowing investment projects irrespective of their damage to the environment may involve irreversible environmental cost that might ultimately render the economic benefits unsustainable. Informed decision of policy makers and legislators thus

requires ranking alternatives and comparing "the net benefits of one policy option with the opportunity cost of that choice".[52] Various arguments are forwarded in favour of both views.

Those who forward the first view reinterpret the concept of risk and underline the loss incurred in forfeiting opportunities of economic development. This raises the issue of opportunity cost of a given choice thereby referring to "the value of the next best alternative, which was given up. A rational choice from among competing options is anticipated to yield benefits that exceed the opportunity cost".[53] One may argue that the risk of depletion of certain resources (under specific circumstances) is transient and does not justify the risk of forfeiture of opportunities toward rapid economic development. Under such circumstances, omission of opportunities involves a risk. From this perspective, the cost to risk society is what the society would lose for not having taken risks owing to the prospective potential for substitutes and a new technological breakthrough that 'might' rectify and ultimately straighten up the price paid in environmental degradation.

Authors such as Gardner, Furedi, Booker & North, however, do not refer to such transient and reversible concessions to environmental impact but rather resort to the extremist position of environmental risk denial. Dan Gardner[54] argues that we have never been safer. He takes an analogy of the various phases of human history with the number of pages in a book. In terms of duration, he states that the epoch of nomadic-hunter gatherers takes two hundred pages of a book in contrast to a single page for settled agrarian societies and a single paragraph for the last two centuries of industrialization. Gardner attributes human 'propensity to panic' to the brain anatomy of fear and the 'fight-or-flight' impulse imbedded in us throughout the stone ages in reaction to the wilderness and 'submissive fatalism'.

Christopher Booker and Richard North[55] claim that global warming is attributable to solar radiation and not to carbon emissions. They state that it is a phenomenon that is occurring not only on Earth, but also in Mars, Pluto, Jupiter and others. Robin McKie challenges this argument by showing the gaps in the assertions on the ground that "all planets have seasons and there is no reason to believe that these case studies are anything other than instances of this phenomenon".[56] Mckie also disproves the interview alleged to have been given to Canada Financial Post by Cambridge astrophysicist Nigel Weiss about solar warming changes as the source of global warming on Earth.

Furedi believes that humanity is too preoccupied with the conception of risk and that such mindset leads to the exaggeration of difficulties and tends to overlook potential solutions.[57] He states that safety has turned out to be a fundamental value and that "[p]assions that were once devoted to a struggle to change the world (or to keep it the same) are now invested in trying to ensure that we are safe".[58] He suggests that we should not be obsessed with so-called theoretical risks which can distract society from dealing with the dangers that have always threatened our lives.[59] According to Furedi "we live in a world that is far safer than at any time in history" and he cites the percentage of the ageing population in the western world as a reflection of the dramatic progress in the struggle against disease.[60] He further argues against Beck's views that the 'sources of danger are no longer ignorance but *knowledge*' and that "the forces of destruction unleashed by modernization increasingly outweigh the benefits".[61] Furedi assimilates such views (against modernization) with conservative interpretations of science which held that "science and knowledge invariably overstep the limits posed by nature, leading to chaos and catastrophes".[62]

These extremist views of risk denial mainly depend on assertions rather than valid analysis. Another category of arguments that are not as extreme give emphasis to the notion of cost-benefit balance and justify trade-offs. In the course of efforts toward rational choice, the cost-benefit balance "will be affected by how it is defined".[63] If a narrow economic framework is used for the definition "a policy to protect a mangrove forest has an economic opportunity cost".[64] But a wider framework includes "the valuation of ecosystem services" that can include economic benefits such as "protection against coastal storms, the creation or maintenance of a breeding ground for fisheries, and the availability of wood for the local community".[65]

The issue goes beyond cost-benefit balance when the notion of risk is taken into account. Our era of '*modernity*', according to Ulrich Beck, involves "opportunities and hazards" which constitute the "contours of the Risk Society".[66] He notes that we are at a developmental stage in which "social, political, economic and individual risks increasingly tend to escape the institutions for monitoring and protection".[67] In the context of Ethiopia's floriculture, the risks relate not only to lowering compliance standards as discussed in Chapters 7 and 8 but also to the problems of implementing the regulatory framework that are highlighted in Chapter 4.

This necessitates careful attention to the realities and facts on the ground rather than mere promises and aspirations of economic development which, as Adams remarks, "is a two-edged sword, promising to hack away the chocking creepers of poverty, but at the same time bringing

with it unrecognized, unregulated and often deeply hazardous change." Adams further states that the distribution of risks that accompany development are uneven and are concentrated in the zone and the workplace of the poor.[68]

A given course of action is said to be positive and beneficial if it brings about a net advantage, i.e. provided that 'benefits' outweigh 'costs'.[69] Such balance of benefit and cost can, for example, be perceived in the context of using pesticides and fertilizers in agriculture which on the one hand helps "developing countries to deal with hunger and poverty"[70] and meanwhile involves various risks such as development of resistance,[71] wider adverse impacts on the environmental impacts and "persistence of pesticides in food, and the problem of acute poisoning, particularly in people using them".[72]

In addition to such risks of hazard, sustainability is concerned about the risk of resource depletion. From this perspective, sustainable development can be interpreted not only "as requiring some constancy in the stock of natural environmental assets" but also from the "notion of discounting future gains and losses".[73] The analysis of present and future benefits and cost determines how much of natural resources can be used sustainably because exhaustible resources have "a faster rate of depletion in the earlier years, and the shorter is the interval before which the resource is exhausted".[74]

Various empirical studies have shown that there is "an inverted–U-shaped relationship between levels of environmental harms and per capita income" and this "follows a pattern similar to the hypothesis of Kuznets (1955) that income inequality first rises, and then declines, with economic development".[75] The analogous "inverted–U-shaped relationship" between the rise in per capita real GDP and pollution concentration is usually referred to as 'Environmental Kuznets Curve (EKC)'[76] to show that accelerated industrialization in low-income economies will push the level of pollution concentration up to a certain stage after which there is the tendency towards higher environmental quality and subsequent decline of pollution per capita real GDP. This view assumes that development which might initially pursue relatively lower compliance standards ultimately creates the quest for higher quality of life and thus to higher social and environemntal compliance standards. Although the assumption might sound plausible in light of the experience of developed countries that have realzed their pursuit of economic development, there can be the risk that concessions in compliance standards can be irreversible, and the pursuit may also fail to deliver the economic benefits it had promised to offer.

3.3. Challenges in the Cost-Benefit Analysis of Environmental Assets

3.3.1. The ethical dimensions of the cost and benefit balance

Cost-benefit analysis becomes difficult when it springs from economic conceptions that "deal with goods in accordance with their market value and not in accordance with what they really are".[77] According to Schumacher, it is "inherent in the methodology of economics to *ignore man's dependence on the natural world*."[78] And eventually, "[w]hat we own comes to own us, keeping us farther from fulfilling commitments that give meaning to life"[79] including the sustainable benefit, joy, inspiration and fulfilment we get from the natural world.

Policies and laws regarding the investment-environment balance are inevitably influenced by values and preferences. In societies of substantial diversity it is difficult to come up with shared value systems regarding what is *intrinsically* appropriate, good and right for every member of the society. Such *deontological* conception of ethics was what Kant regarded as the *categorical imperative*, i.e. the end which is good and right in-itself and not as a means to another end. From this deontological perspective, human beings are mere elements and not masters of the environment and the environment ought to be protected for its *intrinsic worth* and not because environmental protection serves the purpose of human welfare.

In the Ethiopian context, the current rate of population growth unmatched by economic development commensurate with it and the quest for survival among subsistence farmers and pastoralists seem to make the deontological perspective of environmental ethics an exception rather than the rule. Such deontological exceptions prevail irrespective of economic opportunity cost in situations such as the preservation of endangered species like the Walia Ibex, the red fox, and others.

The realistic ethical basis in the determination of the investment-environment balance (in the Ethiopian context) seems to be largely teleological or purpose-driven. From this consequentialist perspective, the investment-environment balance can be determined based on factors that are instrumentally appropriate provided that they *efficiently* lead towards another end, i.e. sustainable development and wellbeing. Setting aside questions such as 'can development be sustainable indefinitely? whose wellbeing are we referring to? etc., policy makers and legislators justify investment and environment laws based on their instrumental propriety towards development and wellbeing that are concepts discussed under Chapters 1 and 2.

After inquiry into the *PURPOSE* served by the investment-environment nexus (i.e. social utility in the realms of development and wellbeing), the second question becomes: "*HOW* do we get there?' It is at this juncture that various theorems such as the Coase Theorem, the Pareto Effect Analysis, the Kaldo-Hicks Efficiency Criterion and others become relevant in the analysis of *efficiency* in a balance that takes cost, benefits, impact and standards into account.

3.3.2. 'Efficiency' theories in the cost and benefit balance: An overview

Under the scheme of Cost-Benefit Analysis (CBA), "the total social benefits anticipated from a project are compared with the social costs" and the decision to invest is made "if the present value of benefits exceeds costs". [80] No matter which households or individuals are beneficiaries, the benefit is considered as social benefit and is believed to offset the loss incurred by members of the society. Such trade-offs presuppose monetary valuation and one of their drawbacks emanates from the fact that they do not usually take transboundary adverse effects into account.

Environmental protection in the course of economic activities may be made through direct regulation or through disincentives such as pollution taxes. The latter may be referred to as Pigouvian taxes named after A.C. Pigou, who was the author of *Wealth and Welfare* (1912) and *The Economics of Welfare* (1920). Such taxes are meant to transfer the external social cost of environmental harm to the internal cost of a business undertaking. Coase's theorem argues that Pigouvian taxes may not be efficient owing to transaction cost and because they do not take the role of victims into account.

Coase notes that "[t]he cost of exercising a right (of using a factor of production) is always the loss which is suffered elsewhere in consequence of the exercise of that right, [such as] -the inability to cross land, to park a car, to build a house, to enjoy a view, to have peace and quiet, or to breathe clean air".[81] He suggests that a business firm and landowners who are victims of environmental harm such as pollution or noise can, upon proof of property rights, enter into and enforce contracts of mutual interest without the need for direct regulation or Pigouvian taxes.

Such contracts may involve compensation to victims, or cost may be incurred by the plant to control the harm depending on the option which is cost *efficient*. An agreement may also be made so that dwellers/owners of the neighbouring houses would pay off the plant to leave the area. If it is cheaper for a factory to pay compensation than eliminate pollution, Coase considers

the former option as *efficient*. If, however, the cost of compensation to landowners/residents is bigger than the cost of pollution control, the latter becomes the *efficient* solution. For example, in the Kera vicinity of Addis Ababa where unpleasant smell from the Addis Ababa Abbatoirs Enterprise at times pollutes a very wide area, application of the Coase Theorem would suggest the following options as *efficient* solution:

a) Victims may contribute money and pay an amount acceptable to the Abattoirs Enterprise so that it leaves its current location, which would (to their advantage) bring about appreciation of the value of real estate in the area; or

b) Victims,[82] if eligible, may seek compensation; and, the Enterprise may either decide to pay compensation and continue polluting, or incur the cost of pollution control.

Coase argues that contracts can be implemented based on mutual benefit and without transaction cost thereby leading to an *efficient outcome.* However, there can still be problems of onerous transaction cost where environmental harm involves a large number of victims and complex aspects of interest. There can also be the problem of *free-riding*, i.e. "behavior in which people receive benefits from the creation of public good or a common-pool resource but choose not to make a voluntary contribution toward the production of those goods".[83] Hackett notes that transaction cost and free riding can "plague the Coasian contracting" because these problems "tend to become larger as more and more people are included in the negotiation process".[84]

Various factors are considered in the design of policies and enactment of laws. According to The Pareto Efficiency Criterion, named after Vilfredo Pareto (1848-1923), policies that are alternatives to the status quo must be evaluated on the basis of their impact on every member of a given society. "If a policy alternative makes any member of society worse off than under the status quo, then that policy alternative is eliminated from further consideration".[85] This criterion is problematic as it indirectly protects the status quo because it is difficult to come up with a policy alternative that would satisfy every member of a given society.

A less rigorous efficiency criterion which "corresponds with the utilitarian-ethical policy alternative" was proposed by economists Kaldor (1939) and Hicks (1939)".[86] This criterion suggests that "we must compute net social utility (adding up the gains and the losses for each member of society) for each policy alternative to the status quo" so that the policy alternative that generates the largest gain in net social utility" can be taken as the efficient policy

alternative.[87] Although the Kaldor-Hicks efficiency criterion gives insight into the balance between social utility and social cost of a given policy, the estimation of environmental benefits and cost based on monetary valuation becomes difficult as is briefly indicated in the following sections.

3.3.3. Non-marketed environmental benefits and cost

Environmental benefits (in the form of use value and nonuse value) and environmental costs can hardly be quantified through monetary valuation because the value of most natural resources (as in the case of the air we breathe) cannot be expressed in monetary terms and exchange value. Moreover, environmental hazards can cause transboundary harm that usually escapes the computation of cost-benefit analysis.

Neoclassical economists support the valuation of environmental effects of investment projects for rational decision-making and they consider "monetary evaluation of the environmental consequences of investment projects as a primary task of environmental economics".[88] Various mechanisms have been devised in the cost-benefit analysis of non-marketed environmental effects. The methods of valuing the environment stated by Bowers[89] include expert opinion, replacement cost, surrogate markets, travel cost, hypothetical markets, stated preference, and contingent valuation.

Expert opinion (such as the opinion of a botanist in the estimation of monetary value of a rare plant destroyed by a project), *replacement cost* (i.e. the valuation of cost to replace natural resources destroyed by an investment project), *surrogate markets* (as in the case of the price differential between sites of economic activity such as airports that cause noise pollution and other comparable sites without the pollution), *travel cost* (i.e. the time and expenses incurred to travel to recreational sites, etc.), are among the valuation methods Bowers stated as methods of valuing non marketed environmental effects. The Hedonic Price Method (HPM) which can also be referred to as the Hedonic Regression Method applies "econometric techniques" in assessing the bundle of characteristics[90] of a given property and the amount of loss in market value as a result of investment projects.

The contingent valuation method (CVM) is the most frequently used method in which "a sample of the population is surveyed" to whom the problem is explained. After having been informed about the benefits of the project and the damage that it would cause to the environment,

respondents will be "asked to indicate their *willingness to pay* to protect the environment".[91] Respondents that are selected through random sampling "are assumed to behave as if they were in a real market".[92] This valuation method relates to a hypothetical *option value* in the form of "expression of preference" or "willingness to pay, for the preservation of the environment against some probability that the individual will make use of it at a later date".[93]

The contingent valuation method (CVM) asks respondents "what they are willing to pay for a benefit, and/or what they are willing to receive by way of compensation to tolerate a cost". [94] The reliability of this method in the Ethiopian context clearly depends on the amount of money respondents may consider to be adequate to a given natural resource. This is inevitably influenced by the level of income of respondents and the value they attribute to an amount which might be considered as '*maximum willingness to pay*.' Moreover, variables related to the belief and opinion of respondents, a considerable number of whom might not appreciate the actual magnitude of a given environmental effect, can contribute to the unreliability of the contingent valuation method.

3.3.4. Problems in the valuation of natural resources

In 1875, Marx had criticized the view that "Labour is the source of wealth and all culture" in a critique of a programme drafted by the United Workers' Party of Germany. Marx wrote: "… Nature is just as much the source of use values (and it is surely of such that material wealth consists!) …".[95] Moreover, some economists are trying to measure natural capital and environmental degradation that accompanies economic activities.

Partha Dasgupta, measures the performance of some developing countries "along a few yardsticks, such as GDP [to which] he adds the index of wealth, which tries to measure 'natural capital assets': forests, oil and minerals, and atmospheric quality".[96] Nearly all the countries covered under Dasgupta's study "have enjoyed income growth over the past 30 years, but in natural wealth they have all gone backwards. Pakistan's GDP per head rose 2.2% a year between 1970 and 2000 – but its per capita natural wealth shrank 1.4%." The methods of environmental measurement that are being used "are still crude (the wealth index does not include water or soil); vital for, well, obvious reasons." Yet, it is a significant step in the right direction from the earlier mindset of total disregard to natural capital and all ecological amenities that are not marketable.

Natural resources may have *exchange (market) value* as in the case of minerals and logging. Secondly, they may have *use value* (at zero market price) e.g. air. And thirdly, there are resources that have *nonuse values* such as "aspects of the environment that [a given group of persons] care about but do not use in a commercial, recreational or other manner".[97] It is thus difficult to estimate the monetary value of elements and aspects of the environment.

There is usually market failure in the valuation of natural resources that are considered to have exchange value or market prices. In the Ethiopian context, land is publicly owned since its nationalization in 1975, and cost-benefit analysis that uses the exchange value (lease price) of a given plot of land runs the risk of imperfect valuation. As Richardson notes, "harms occur when businesses seek to maximize profits through exploiting market failures" which "generally means inadequate factoring of the full costs or benefits in prices and economic decisions".[98] The valuation of land in Ethiopia becomes 'imperfect' because no monetary value is attached to rural and urban land other than the amount which a lessee is willing to pay during bids for lease. And in most cases it can be allocated at nominal payments.

This creates an imperfect valuation of inputs in the process of investment and production of goods and services. There are times when 'investors' take wide areas of rural land at a lease payment that is many times lower than the actual value of the land and the resources therein. The same applies for certain 'real estate' companies who make use of the 'imperfect' valuation of urban land in getting the bulk of their profits from the understated value of the land rather than the actual capital and labour inputs they use in the construction process.

Richardson notes that such market failures usually "arise in relation to the environment, either because the applicable property rights are ill-defined (e.g., biodiversity) or because the environmental characteristics are so-called public goods (e.g., atmosphere)".[99] Market failure in the valuation of natural resources overstates the magnitude of capital investment and its profit; and on the contrary understates the actual value of natural capital used as input and the magnitude of loss in natural capital. As Richardson remarks, profit-centered and shareholder-focused activities of managers and financiers often result in environmental pillage, and he suggests that they ought to holistically "operate within the broader environment, taking account of their decisions, and being stakeholder focused".[100]

Hamilton and Hassan suggest valuation of deforestation by comparing "the total economic value of the land under the alternative uses".[101] The possible measurements of land value they suggest include "commercial land value or, where there are market distortions, the present value of land rents under agriculture." They also cite Vincent [1999, 'A Framework for Forest Accounting,' *Forest Science* 45(4): 1-10] whose valuation includes "valuing local and global willingness to pay for standing forests, external benefits provided by these forests, net carbon sequestration, plus the value of series of rents generated by sustainable harvest of timber and non-timber products or non- extractive uses such as tourism".[102]

Sagoff contrasts the conception of nature as a source of our very existence "reverence and inspiration" as opposed to the perception of nature merely "as object of economic exploitation".[103] He suggests a balance between economic development and environmental protection which requires to "halve the difference" between the positions of extreme environmental activism and that of the dogmatic economic faithful who believes that "economic growth is the way to bring Heaven on Earth".[104] As Sagoff points out in another book, today "many environmental activists including scientists … [argue] that ecosystems should be preserved in their natural state *for* rather than *in spite of* economic values and concerns" and he argues that "unspoiled nature provides long-term economic benefits that offset the short-term disadvantage ..."[105] Sagoff argues against attributing exchange (i.e. monetary) value to the eco-system when cost-benefit analyses of economic activities are made. He notes the immense services of the ecosystem to humanity and argues that "exchange value has no clear relation to *value in use*, that is, to the substantive contribution a good or service makes to human flourishing and development. …"[106] [*Emphasis added*] [107]

Sunstein, to some extent, believes that the fear of risk related with economic development is unduly inflated at present. Yet, he states that "significant steps should be taken to control the problem of global warming" because it "threatens to impose serious risks." thereby suggesting a great deal of attention to "alternative sources of energy, which pose lower risks than those associated with nuclear power and fossil fuels".[108] Sunstein criticizes the *Precautionary Principle*,[109] and states that it has a "narrow 'viewscreen' for the evaluation of risks" and suggests that "cost-benefit balancing has a significant advantage over the Precautionary Principle".[110]

He notes that cost-benefit analysis should not solely attend to demonstrable harms, but also to 'speculative harms,' and raises the problem in quantifying certain harms into monetary equivalents.[111] He further argues against considering 'economic efficiency' as an "exclusive foundation of regulatory decisions" because it "attempts to satisfy people's existing preferences, as measured by their 'willingness to pay'," while in fact "poor people are unable (and hence unwilling) to pay much to reduce a risk".[112]

Although Sunstein is skeptical about the Precautionary Principle, he does not refute the need for precaution and does not disregard the possibility that the Precautionary Principle can be reconstructed on a 'sensible foundation'.[113] As Farber notes, Sunstein "has been a long-time critic of environmental regulation as clumsily designed and poorly implemented, and among the remedies he has long supported is cost-benefit analysis".[114] Yet, Farber states that Sunstein's "more jurisprudential work, as we saw ... opposes the kind of economic reductionism underlying formal cost-benefit analysis".[115]

It is difficult to invariably use quantitative valuation systems to balance the benefits of investment projects *vis-à-vis* their environmental cost. All we can do is examine the impact of specific investment projects on the environment and allow economic activities provided that they fulfil environmental compliance standards for the benefit of sustainable development which envisages multidimensional objectives far beyond mere economic growth. Although environmental effects are included in cost-benefit analysis, such effects are best controlled through schemes such as health and safety standards, Environmental Impact Assessment, environmental standards etc. rather than cost-benefit analysis. Yet, efforts to consider the monetary value of environmental benefits and costs (in cost-benefit analysis) signify an important step as compared to the earlier conceptions of investment and economic growth that paid little or no attention to environmental effects. In fact, there can be certain domains of investment whose social utility and disutility can easily be assessed through cost-benefit analysis because they may not involve environmental effects that are difficult to monetize.

3.4. Environmental Mainstreaming and Sustainability Impact Assessment

3.4.1. Environmental mainstreaming in investment projects

Efforts to balance the enhancement of investment and environment protection do not involve a choice between the two, but rather target at a balanced attainment of both. That is why environmental issues need to be integrated with development pursuits. This is known as *environmental mainstreaming* which requires "the informed inclusion of relevant environmental concerns into the decisions of institutions that drive national, local and sectoral development policy, rules, plans, investment and action".[116]

> Environmental assets (e.g. fertile soil, clean water, biomass and biodiversity) yield income, offer safety nets for the poor, maintain public health, and drive economic growth. But conversely, environmental hazards (e.g. pollution, environmental damage, and climate change) all threaten livelihoods and development. Poor people are especially dependent on environmental assets and are vulnerable to hazards. But environmental and developmental institutions and decisions tend to be separate, which results in environment being viewed as a set of problems rather than potentials.[117]

Environmental mainstreaming, *inter alia*, aims at "integrated solutions that avoid 'development vs. environment' arguments, institutional tensions, and associated costs" and "improving the productivity, resilience and adaptability of local, sectoral, national and indeed global social and economic systems …".[118] To this end, environmental mainstreaming "requires collaboration – the integration of environment and development interests and ideas, not just environment being forced into development".[119] Dalal-Clayton and Bass note that one of the major constraints that render such mainstreaming difficult is "the prevailing development paradigm, which treats environment as an institutional and economic 'externality' ".[120]

The entry points for environmental mainstreaming are not the submission of investment project documents and EIA review to environmental protection agencies but the "planning cycles, particularly those concerning safeguards, prioritization and investment choices".[121] Usually, the effective 'drivers' at such entry points are not environmental protection institutions but ministries in charge of finance and planning when issues such as budgetary and policy issues are deliberated upon in relation with prioritization.[122]

Environmental mainstreaming can inform national development plans and strategies such as "low-carbon growth, rural job creation, and increasing public revenue from natural resources" and can bring about 'upstream' changes by "influencing a policy, plan, budget, decision, etc" or 'downstream' changes in behaviours and environmental improvements at the grassroots.[123] To this end, Environmental Mainstreaming installs "criteria/indicators and accountability mechanisms to ensure monitoring and continuous improvement in environment-development integration".[124] Under such integrated approach, the economic performance of an investment project is not measured by short-term and unsustainable "profit margins, but by demonstrating how it converts its resources into wider economic, social and environmental benefits".[125]

3.4.2. Environmental Impact Assessment and Sustainability Impact Assessment

The *impact* of an investment project can be assessed by comparing the pre-project realities at a given site, neighbourhood or the community and the realities that would unfold afterwards. In the context of the environment, impact refers to the state of the environment with or without the project. Investment projects do not disregard the concern for the sustainability of the environment because the very purposes of investment (i.e. development and well-being) cannot be sustainable without the protection of the environment. An investment project that brings about economic benefits might operate at *zero impact* on the environment, or might even positively *upgrade* the environment, as in the case of planting trees or conducting other activities that can facilitate environmental regeneration and development. This does not, however, mean that investments are invariably expected not to have negative effect on the environment no matter how minimal the impact might be.

Article 2(3) of Ethiopia's Environment Impact Assessment Proclamation (Proclamation 299/2002) defines environmental impact assessment as "the methodology of identifying and evaluating in advance any effect, be it positive or negative, which results from the implementation of a proposed project or public instrument". The Proclamation, under Article 2(4), further defines 'impact' as "any change to the environment or to its component that may affect human health or safety, flora, fauna, soil, air, water, climate, natural or cultural heritage, other physical structure, or in general, subsequently alter environmental, social, economic or cultural conditions." The Ethiopian environmental legal regime that is relevant to the flower sector (including EIA) is discussed in Section 4.4 of the next chapter.

The definitions above share similar content with the ones offered by the Espoo Convention and other sources. Articles 1(vi) and 1(vii) of the 1991 Espoo *Convention on Environmental Impact Assessment on a Transboundary Context* provide the following definitions to environmental impact assessment and 'impact':

(vi) "Environmental impact assessment" means a national procedure for evaluating the likely impact of a proposed activity on the environment;

(vii) "Impact" means any effect caused by a proposed activity on the environment including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; it also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors;

The definition for EIA adopted by the International Association for Impact Assessment (IAIA) incorporates nearly all the elements in the two definitions stated above and defines 'impact' as "the difference between what would happen with the action and what would happen without it".[126] It also underlines that the concept of 'environment' in Impact Assessment has "evolved from an initial focus on the biophysical components to a wider definition, including the physical-chemical, biological, visual, cultural and socio-economic components of the total environment".[127] As a *technical tool*, EIA analyzes the consequences of investment projects and provides information for stakeholders; and as a *legal and institutional procedure* it is "linked to the decision-making process of a planned intervention".[128]

IAIA lists down the following objectives of Environmental Impact Assessment:

- "Provide information for decision-making that analyzes the biophysical, social, economic and institutional consequences of proposed actions;
- Promote transparency and participation of the public in decision-making;
- Identify procedures and methods for the follow-up (monitoring and mitigation of adverse consequences) in policy, planning and project cycles, and,
- Contribute to environmentally sound and sustainable development".[129]

It is to be noted that impact assessment covers the effect of the entire project cycle throughout the phases of project design, construction, operation, maintenance and the act of demolishing (any part of) the project. In the final analysis, investment projects are expected to contribute towards environmentally sustainable development thereby making up for the adverse effects some investments might have had during construction and operation.

To this end, environmental compliance standards are designed as minimum thresholds and benchmarks that must be observed during the design, construction, operation, maintenance and demolition of investment projects. "If the standards are met, no environmental damage may be presumed to have occurred" and the "cost of meeting the standards are incorporated in the costs of the projects".[130] An engineer who designs a bridge "does not choose her design level" of structural stability "by conducting a Cost-Benefit Analysis", but "works with pre-specified safety standards".[131] Similarly, the impact of investment projects that can harm the environment need to be evaluated on the basis of their *impact* rather than a cost-benefit analysis that "probably disguises the problem more than it simplifies it" particularly where there are "a number of diverse environmental consequences, some negative and some positive".[132]

Impact may be susceptible to valuation where the environmental effect can be monetized. Yet, adverse impact may as well be assessed without using monetary value so that a certain threshold of environmental protection can be required as a precondition for the issuance or renewal of investment licence and bank facilities.

Impact assessment also envisages sustainability impact assessment, social Impact Assessment, strategic impact assessment, and other modes of impact assessment. Social impact assessment analyzes, monitors and manages "the social consequences of development":[133]

> Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans and projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

The wider notion of *Sustainability Impact Assessment* accommodates not only the positive or negative environmental and social impacts of a certain project or other intervention but also addresses the impact in the economic dimension. It classifies impact into the following categories:

- "*no significant impact* – compared to the base situation"
- "lesser significant impact – marginally significant, ... and if negative, a potential candidate for mitigation
- "greater significant impact – ... and if negative, merits serious consideration for mitigation".[134]

George and Kirkpatrick further state the factors that determine the magnitude of a given impact. They suggest that "the extent of existing economic social and environmental stress …, the direction of changes to base-line conditions, the nature, order of magnitude, geographic extent, duration and reversibility of changes; the regulatory and institutional capacity to implement mitigation and enhancement measures" need to be taken into account.[135] They further state "a set of nine core indicators plus two process indicators" that were used for the Doha Development Agenda study. The process indicators are "sustainable development principles" and "sustainable development strategies" while the nine core indicators are the following:

- *Economic*: real income; fixed capital formation; employment;
- *Social*: poverty; health and education; equity;
- *Environmental*: biodiversity; environmental quality [quality of air, soil, water …], natural resource stock.[136]

These constitute the core indicators in Sustainability Impact Assessment which can inform the core theme of this research in its inquiry into the appropriate balance between investment promotion and environment protection in Ethiopia with particular focus on the flower sector. Indicators such as *consumer effects* can further be used as supplementary indicators in the economic dimension. The merits of Sustainability Impact Assessment is the synthesis that it offers in balancing positive and negative impacts of investment projects in the economic, social and environmental dimensions.

3.5. Brief Synthesis

3.5.1. Between '*price*' and '*ecological grandeur*'

Laws and policies on investment and environment may arise from what Sagoff states as "the three kind of judgments" that are based on *price*, *principle* and *intrinsic worth*.[137] These foundations of policy-making might exist in some form of harmony or as conflicting conceptions. The first ground of policy making considers the economic return that can be obtained from an investment project, while the second consideration is based on "what is good in general, right as a matter of principle, or appropriate in view of a particular situation".[138] The third conception takes intrinsic worth and aesthetic grandeur of the environment as an *end in itself* rather than an instrument towards other objectives.

In the context of the environment and investment balance, the first judgment solely focuses on the 'market price' of the output from an investment project while the second judgment takes a wider consideration of what is *good* and *right* and looks beyond the short-term market returns of a given 'investment' project. The third type of judgment seeks the preservation of the environment for its own sake. It considers the beauty, grandeur and majesty of nature as it is, and regards environmental preservation as intrinsically necessary not only from *teleological* (purpose-driven) perspective of its benefits to sustainable development but owing to the intrinsic worth of environmental preservation on aesthetic and natural grounds.

Preserving the environment for its intrinsic worth seems to be largely impractical under the Ethiopian setting owing to the progressively increasing encroachment of smallholder farmers and pastoralists onto state-owned forests, reserved parks, open fields, community lands and open spots including mountains. This emanates from overpopulation and the 'natural' quest for survival. Yet, there can be possible exceptions which warrant preservation irrespective of economic opportunity cost as in the case of protecting endangered animal and plant species

The first category of judgment which is solely based on 'market price' is untenable because the seemingly positive short-term economic benefits can be misleading. As Ato Legesse Gelleta[139] notes, there is the tendency of *incentive tourism* among foreign speculators who come with negligible capital and count on the profits they can get from land acquisition. Legesse recalls the earlier gaps in solely considering projects to issue investment permits and the failure to verify the capital stated in project documents that eventfully led to difficulties in bank loan recovery. He also notes that at present, the requirements of Oromia's Investment Commission include bank statement for 30% of the investment capital stated in the project document, the profile of the investor and the viability of the project. Legesse contrasts the earlier practices of offering more attention to investment attraction with the current requirement for the submission and review of Environemntal Impact Assessment before the issuance of licence.

3.5.2. Reversing the '*race to the bottom*'

A developing economy that can meet the major factors that attract investment, does not need to resort to '*a race to the bottom'* towards weaker environmental compliance standards and '*incentive tourism*'; and such weak environmental policy alone cannot attract value creating investment unless the major factors thereof are put in place. Coperland and Gulati state that

economic activity which heavily relies on natural capital, bears the risk of "a decline in both environmental quality and in the long run real income".[140] They indicate that "increased pressure on the environment reduces resource stocks, which reduces income, which weakens institutions protecting resource stocks, which leads to further environmental degradation and income loss".[141]

Coperland and Gulati note that "while there is some evidence that differences in environmental policy do affect trade and investment flows, there is no evidence that it is one of the major factors." They hope that weaker environmental policy regimes as in the case of pollution, may contribute to income growth which will then "increase the demand for environmental quality" and may "lead to improved environmental policy".[142] However, they underline the caveat that "countries with weak property rights regimes that are heavily dependent on natural capital exports can potentially suffer increased environmental degradation without offsetting income gains".[143] One can thus argue that the short-term benefits from investment in sectors such as floriculture are usually offset by environmental degradation and lack of long-term export markets if the investment project is mainly attracted by weak environmental standards.

3.5.3. Between '*consuming natural wealth*' and '*starvation*'

Income ought to be perceived as "a net concept" and "the true measure of income involves netting out "the depreciation of assets that has occurred over the accounting period".[144] Hamilton and Hassan use this notion of net income in environmental accounts by extending "the range of assets whose value is being maintained in aggregate to include natural resources or, as an example of a 'bad' (pollution) stock".[145] They note that there may be augmentation of the value of living resource assets rather than depletion where the harvest of natural resources (such as forests) is less than growth thereby reducing the problem of exhaustible resources.[146]

Sustainable development thus requires not only the preservation of natural resources but also their augmentation by harvesting less than the growth rate of the resources. The level of growth must also take population growth into account because the latter may offset the gains obtained in GDP growth. "It is empirically the case that the great majority of countries with population growth rates greater than 1.5 per cent per year are actually on a path of declining wealth per capita".[147] Increase in social welfare thus requires the maintenance of positive genuine saving. "For countries that are exploiting natural resources, this implies that the value of resource

depletion is being offset by other investments, which in turn are, notionally at least, financed by the resource rents being generated".[148]

If, however, resource rents are being invested in 'white elephant' projects with low social returns, then increases in social welfare cannot be guaranteed even if the policy rule is being followed".[149] Social welfare and sustainability require the "change in value of all assets" and this presupposes saving which can lead to higher physical capital, "human capital accumulation, both in terms of knowledge and healthfulness, reclassifying R&D as investment, [and] net accumulation of social and institutional capital".[150]

Unfortunately, low-income countries are usually caught in pursuits of survival on the one hand, and the risk of depletion and degradation of natural resources on the other. They are thus handcuffed by the need for short term revenue from extractive economic activities irrespective of the risk of resource unsustainability. Hamilton and Hassan cite the Democratic Republic of Congo[151] as an example and state that "sustainability rules may seem like an irrelevance for low-income countries under stress" and they contend that under "extreme circumstances consuming wealth is the [only] policy option, when the alternative is starvation".[152] This example which refers to one of the most mineral rich countries, *a fortiori*, applies to other economies that are not as generously endowed with natural resources. Laws and legal institutions become ineffective when they fail to address the root causes which bring about certain courses of unsustainable economic activities. If the only alternatives are *starvation* and *unsustainable consumption* of natural resources, the latter becomes more difficult to control and regulate despite prohibitive environmental laws.

The application of the factors discussed in this chapter towards the investment, development and environment balance involves various challenges. In the realms of governance and the normative setting, a major question that arises is whether the Ethiopian legal regime and institutional framework facilitate the appropriate balance between economic benefits *vis-à-vis* social wellbeing and environmental protection. The theme is discussed in the next chapter, and it is pertinent because "there are no *underdeveloped economies* as such, but *undermanaged* [and mismanaged] ones".[153]

* * *

Notes

[1] Paul W. Kuznets (1988), "An East Asian Model of Economic Development: Japan, Taiwan, and South Korea", *Economic Development and Cultural Change*, Vol. 36, No. 3, Supplement: Why Does Overcrowded, Resource-Poor East Asia Succeed: Lessons for the LDCs? (Apr., 1988), p. S21.
[2] World Economic Forum (2012), *The World Competitiveness Report* 2011-2012, Geneva, p. 4.
[3] *Ibid*.
[4] *Ibid*, p. 9.
[5] *Ibid*, p. 8.
[6] *Ibid*, pp. 8-9.
[7] *Ibid*, pp. 4-5.
[8] *African Growth and Opportunity Act* (AGOA) is duty-free market access given by USA to products from least developed countries of Sub-Saharan Africa.
[9] The EBA (*Everything but Arms*) Initiative is a preferential treatment scheme granted by EU countries so that most imports (other than arms and munitions) from least developed countries can have duty-free access without quantitative restrictions.
[10] Lyuba Zarsky, Editor (2005), *International Investment for Sustainable Development: Balancing Rights and Rewards* (London: Earthscan) pp. 15- 17.
[11] Erik Thorbecke, (2007), "*The Evolution of the Development Doctrine*, 1950 – 2005", in *Advancing Development: Core Themes in Global Commons*, Mavrotas & Shorrocks, Editors (New York: Palgrave Macmillan), p. 17.
[12] *Ibid*, p. 21 (citing Brunetti et al. 1997 and Chibber 1998).
[13] *Ibid*, p. 16.
The presumption of the link between export orientation and growth is based on the fact that "transfer of state of the art technology" involved competition "in the world market for manufactures." (Thorbecke, p. 16). The adoption of frontier technology by firms added "to the human capital of those workers and engineers through a process of 'learning-by-doing' and 'learning-by-looking' before spilling over to other firms in the same industry and ultimately across industries" thereby "endogenising and accelerating technological progress and growth" (p. 16) and offering comparative advantage to East and Southeast Asian economies particularly in labour-intensive manufactures.
[14] Kenneth W. Dam (2006), *The Law-Growth Nexus: The Rule of Law and Economic Development* (Washington, D.C.: Brookings Institution Press) p. 60.
[15] "As if our rugged terrain, distance from the sea and poor infrastructure are not hurdles enough, Ethiopia's landlockedness since 1993 had added an even larger problem to the mix." Melaku Geboye, "Ethiopia's Reluctant Move to Join the WTO: A Preliminary Look at Legal and Institutional Implications of Accession," *Journal of Ethiopian Law*, Vol. XXII, No. 1, July 2008, pp. 46-47.
[16] Dam, *supra* note 14, p. 50.
[17] *Ibid*, p. 94.
[18] *Ibid*, pp 62- 68.
[19] *Ibid*, pp. 123 *ff.*
[20] *Ibid*, pp. 123, 124.
[21] *Ibid*, pp. 135, 136.
[22] *Ibid*, pp. 124 *ff.*
[23] Bénassy-Quéré, A., N. Gobalraja and A. Trannoy (2007), Tax and Public Input Competition, Economic Policy, 22: 385–430. [Endnote in Bellak and Leibrecht, "Improving infrastructure or lowering taxes to attract foreign direct investment?,"*Infra* note 77].
[24] Bellak, C., M. Leibrecht and J. Damijan (2009), Infrastructure endowment and corporate income taxes as determinants of Foreign Direct Investment in Central- and Eastern European Countries, The World Economy, Vol. 32, Issue 2, February: 267-290. [Endnote in Bellak and Leibrecht, "Improving infrastructure or lowering taxes to attract foreign direct investment?" *Infra* note 77].

[25] Christian Bellak and Markus Leibrecht, "Improving infrastructure or lowering taxes to attract foreign direct investment?" *Columbia FDI Perspectives,* No. 6, June 3, 2009.
[26] *Ibid.*
[27] *Ibid.*
[28] *Ibid*, p. 17 (citing Jaffe *et al*, 1995).
[29] *Ibid*, (Citing Mabey and McNally, 1999).
[30] Copeland & Taylor, "Trade, Growth, and the Environment," *Journal of Economic Literature* 42 (March 2004), p. 9.
[31] *Ibid*, p. 67.
[32] Gaëtan Verhoosel, (1998), "Foreign Direct Investment and Legal Constraints on Domestic Environmental Policies: Striking a 'Reasonable' Balance between Stability and Change" *Law and Policy in International Business* (29 Law & Pol'y Int'l Bus. 451) p. 457.
[33] *Ibid.*
[34] *Ibid.*
[35] *Ibid*, pp. 457, 458.
[36] *Ibid*, 460.
[37] Zarsky, *supra* note 10, p. 7.
[38] North Atlantic Free Trade Agreement.
[39] Zarsky, *supra* note 10.
[40] *Ibid.*
[41] http://icsid.worldbank.org/ICSID/ICSID/AboutICSID_Home.jsp. Last accessed: August 13, 2009.
[42] *Ibid.*
[43] Multilateral Investment Guarantee Agency.
[44] Multilateral Investment Guarantee Agency's Performance Standards on Social & Environmental Sustainability (World Bank Group, Multilateral Investment Guarantee, Oct. 1, 2007) Principles 1 to 8.
[45] http://www.miga.org/policies/index_sv.cfm?stid=1652 (Last accessed 23 September 2009.)
[46] Prema-chandra Athukorala & Sisira Jayasuriya (2003), *Food Safety Issues, Trade and WTO Rules: A Developing-Country Perspective* **(**"International Food Safety Regulation and Processed Food Exports", 27-28 March, 2003 in New Delhi, India), p. 1.
[47] *Ibid*, pp. 1, 2.
[48] TBT, Annex 1, Terms and their definitions for the purpose of this agreement.
[49] UNCTAD-FAO Regional workshop, Nairobi, Kenya, March (2007), *Background Note*, page 4.
[50] Thorbecke, *supra* note 11, p. 30.
[51] *Ibid.*
The conceptual contributions stated above have broadened the objectives and definition of development. This is evident in the *Millennium Development Goals* that "provide a general framework to monitor the progress of the Third World in its search for improving its level of human welfare." Unfortunately, however, most of the Millennium Goals seem to have been set at an unrealistically high level and may not be attained. (p. 31).
[52] Steven C. Hackett (2006), *Environmental and Natural Resources Economics*: Theory, Policy and the Sustainable Society, 3rd Ed., (New York/ London: ME. Sharpe), p.153.
[53] *Ibid*, pp. 7, 8.
[54] Daniel Gardner (2008), *Risk: The Science and Politics of Fear*, (Virgin Books).
[55] Christopher Booker & Richard North (2007), *Scared to Death: From BSE to Global Warming*: Why Scares are Costing Us the Earth (Continuum International Publishing Group).
[56] Robin McKie, The Observer, Sunday 9 December 2007. http://www.guardian.co.uk/books/2007/dec/09/scienceandnature.features/print Accessed: 3 January 3, 2010.

[57] Frank Furedi (2002), *Culture of Fear*, Revised Version (Continuum International Publishing Group), page xi.
[58] *Ibid*, p. 10.
[59] *Ibid*, p. xvii.
[60] *Ibid*, p. 54.
[61] *Ibid*, pp. 56 – 58.
[62] *Ibid*, p. 56.
[63] World Bank (2012), *Inclusive Green Growth*: *The Pathway to Sustainable Development*, p. 40.
[64] *Ibid*.
[65] *Ibid*.
[66] Ulrich Beck (1992), *Risk Society: Towards a New Modernity*, Ritter, M. trans. (London: Sage) p. 15.
[67] *Ibid*, p.5.
[68] W. M. Adams (2009), *Green Development: Environment and Sustainability in a Developing World*, 3rd Edition (Abington & NY: Routledge) p. 359.
[69] David Pearce *et al* (1994), *Sustainable Development: Economics and Environment in the Third World* (London: Earthscan Publications Ltd.) p. 57.
[70] Adams, *supra* note 68, p. 351.
[71] This leads to an escalating cost of multiple pesticide application.
[72] Adams, *supra* note 68, p. 354.
[73] Pearce *et al supra* note 69, p. 23.
[74] *Ibid*, p. 35.
[75] Hackett, *supra* note 52, p. 346.
[76] *Ibid.*
[77] E. F. Schumacher (1992), *Small is beautiful*: A Study of Economics as if People Mattered (London: Vintage Books) p. 29.
[78] *Ibid.*
[79] David Schmidt & Elizabeth Willot (2002), *Environmental Ethics*: What Really Matters, What Really Works (N.Y: Oxford University Press) p. 206.
[80] John Bowers (1998 [1997]), *Sustainability and Environmental Economics*, Pearson Education Ltd., p. 125.
[81] Ronald Coase, "The Problem of Social Cost", *Journal of Law and Economics*, Vol. 3 (October 1960), p. 44.
[82] It may be argued that victims who came to the area in spite of the unpleasant smell may find it difficult to seek compensation because they were aware of the inconvenience when they chose to live or work in the area.
[83] Hackett, *supra* note 52, page 162.
[84] *Ibid.*
[85] *Ibid*, p. 28.
[86] *Ibid*, p. 29.
[87] *Ibid.*
[88] *Ibid*, p. 155.
[89] Bowers, *supra* note 80, pp. 141-154.
[90] David Pearce & Edward B. Barbier (2006 [2000]), *Blueprint for a Sustainable Economy*, London: Earthscan, p. 63.
[91] *Bowers*, *supra* note 80, p. 149.
[92] Pearce & Barbier *supra* note 90, p. 66.
[93] David Pearce, Anil Markandya and Edward B. Barbier (1999 [1989]), *Blueprint for a Green Economy*, London: Earthcan Publications Ltd., p, 60.
[94] *Ibid*, p, 69.

[95] Karl Marx (1875, First Published: 1891), *Critique of the Gotha Programme*, Part 1, Paragraph 1. (Marx/Engels Selected Works, Volume Three (1970) Moscow: Progress Publishers, pp. 13-30).
[96] *The Guardian*, Monday 28 December 2009.
[97] Hackett, *supra* note 52, p. 170.
[98] Benjamin Richardson (2008), *Socially Responsible Investment Law: Regulating the Unseen Polluters* (New York: Oxford University Press) p. 9.
[99] *Ibid*, pp. 9, 10.
[100] *Ibid*, p. 10.
[101] Kirk Hamilton & Rashid Hassan, "Measuring Development Prospects by 'Greening' National Accounts" in *Economic Development and Environmental Sustainability* (2006), Ramon Lopez and Michael A. Toman (Editors) , Oxford University Press, p. 68.
[102] *Ibid*.
[103] Mark Sagoff (2008), *The Economy of the Earth*: Philosophy, Law and the Environment, 2nd Edition (Cambridge University Press) pp. 1-4.
[104] *Ibid*, pp. 5,6.
[105] Mark Sagoff (2004), *Price, Principle, and the Environmen*t (Cambridge University Press) pp. 127, 128.
[106] *Ibid*, p. 152.
[107] The italicized words, i.e., *exchange value* and *use value* are concepts analyzed by Adam Smith and Karl Marx.
[108] Cass R. Sunstein (2005), *Laws of Fear: Beyond the Precautionary Principle*, Cambridge University Press, page 8.
[109] The *Precautionary Principle* under environmental law requires precaution despite lack of scientific evidence that proves, with certainty, the occurrence of irreversible environmental harm as a result of a given economic activity. Principle 15 of the 1992 Rio Declaration on Environment and Development stipulates that "… Where there are threats of serious irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."
[110] Sunstein, *supra* note 108, p. 6.
[111] *Ibid*, p. 7.
[112] *Ibid*, p. 9.
[113] *Ibid*, p. 34.
[114] Daniel A. Farber (1999), *Eco-pragmatism*, University of Chicago Press, p. 94.
[115] *Ibid*, p. 95.
[116] Barry Dalal-Clayton and Steve Bass (2009), *The challenges of environmental mainstreaming: Experience of integrating environment into development institutions and decisions* . Environmental Governance No. 3. International Institute for Environment and Development. London, p 11.
[117] *Ibid*.
[118] *Ibid*.
[119] *Ibid*.
[120] *Ibid*.
[121] *Ibid*, p. 12.
[122] *Ibid*.
[123] *Ibid*.
[124] *Ibid*, p. 13.
[125] Rebecca Edwards, Graham Smith and Milena Büchs (2010), *Mainstreaming the environment? The third sector and environmental performance management*, Third Sector Research Centre, Working Paper 36, p. 3.
[126] IAIA (International Association for Impact Assessment), *What is Impact Assessment*, October 2009. Available at:

<http://www.iaia.org/publicdocuments/special-publications/What%20is%20IA_web.pdf (Last visited: 9 March 2012).
IAIA defines Environmental Impact Assessment as "the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made."

[127] *Ibid*.

[128] *Ibid*.

[129] *Ibid*.

[130] Bowers, *supra* note 80, p. 155.

[131] *Ibid*.

[132] *Ibid*.

[133] IAIA, "Social Impact Assessment: International Principles", *Special Publication Series*, No. 2 (May 2003).

[134] Clive George and Colin Kirkpatrick (2004), "Trade and Development: Assessing the Impact of Trade Liberalization on Sustainable Development", Journal of World Trade, 38(3) at 447

[135] *Ibid*.

[136] *Ibid*, p. 448.

[137] Sagoff, *supra* note 105, pp. 1, 2.

[138] *Ibid*.

[139] Interview with Ato Legesse Geleta, Oromia Investment Commission, 28 November, 2011.

[140] Copeland, Brian R. & Sumeet Gulati, "Trade and the Environment in Developing Economies" in *Economic Development and Environmental Sustainability* (2006), Edited by Lopez and Toman, Oxford University Press, p. 179.

[141] *Ibid*. Coperland and Gulati make reference to the arguments in Daly (1993), Chichilinsky (1994), Brander and Taylor (1997), and Cropland and Taylor (1997. 1999).

[142] *Ibid*, p. 208.

[143] *Ibid*.

[144] Hamilton and Hassan, *supra* note 101, page 61.

[145] *Ibid*.

[146] *Ibid*, p. 67.

[147] *Ibid*, p. 74.

[148] *Ibid*, 85.

[149] *Ibid*.

[150] *Ibid*, p. 86.

[151] Failed national governance (as manifested by the level of corruption) and the global economic system seem to be the core factors that have caused the lose-lose choices between natural resource consumption and starvation.

[152] *Ibid*.

[153] A dictum (paraphrased from Peter Drucker's statement) that used to appear on the cover of 'the *Manager*', published by the Ethiopian Management Institute in 1989-1991.

4

The Legal Framework and Institutional Challenges in the Investment, Development and Environment Balance

This chapter mainly examines the normative framework towards the balance discussed in the previous chapters between economic development, social well-being and environmental sustainability. It deals with the Ethiopian legal framework which attempts to balance the rights to development and clean environment that are interdependent. To this end, the balance enshrined in the Ethiopian Constitution and the various investment and environmental laws that regulate the respective aspects of the balance are discussed. The environmental laws that are highlighted in Section 4.4 are chosen on the basis of their relevance to Ethiopia's flower industry. The gaps in the institutional framework that adversely affect the effective implementation in the balance are examined in Section 4.5 with particular focus on environmental impact assessment and the problematic features of the mandate given to sectoral agencies (that undertake development projects) to conduct EIA.

4.1. Pillars of 'Sustainable Development' under the Ethiopian Constitution

Article 43(1) of the Constitution of the Federal Democratic Republic of Ethiopia (hereinafter referred to as the Ethiopian Constitution) stipulates that "The People of Ethiopia as a whole, and each Nation, Nationality and People in Ethiopia in particular have the right to *improved living standards* and to *sustainable development*." The right to development and Ethiopia's economic objectives are respectively embodied in Articles 43 and 89 of the Constitution. The Constitution does not merely envisage economic growth, but targets at '*sustainable development*', and in effect envisages development and social wellbeing in the context of environmental sustainability. While Articles 43 and 89 deal with the right to development and economic objectives of the Constitution, Articles 44 and 92 address the issues of environmental rights and environmental objectives.

Cordonnier-Segger and Khalfan[1] express their concern that "the three principal fields of sustainable development law - economic development law, social and human rights law, and environmental law - still lack coherence", and they believe that this makes "the sustainable development process flexible but fragmented." In spite of this problem, however, they believe that "[s]ome progress has been achieved in the identification and integration of legal principles derived from the diverse streams of sustainable development law since the UNCED", i.e. the 1992 United Nations Conference on Environment and Development.

Cordonnier-Segger and Khalfan appreciate the high profile legal dialogue project of the International Law Association's (ILA) 2002 New Delhi Declaration of Principles of International Law Relating to Sustainable Development which identified the following "seven principles that seek to integrate, in a balanced way, economic, social and environmental interests." These seven principles are:

- the duty of States to ensure sustainable use of natural resources;
- the principle of equity and the eradication of poverty;
- the principle of common but differentiated responsibilities;
- the principle of the precautionary approach to human health, natural resources and ecosystems;
- the principle of public participation and access to information and justice;
- the principle of good governance; and
- the principle of integration and interrelationship, in particular relating to human rights and social, economic and environmental objectives.

In particular, they underline the outcomes of the WSSD (World Summit on Sustainable Development, Johannesburg, 2002) which enhanced "the recognition of three particular principles of international sustainable development law", i.e.: the principles of common but differentiated responsibilities,[2] precaution[3] and public participation.

The seven principles listed above can inform the Ethiopian legal regime which embodies the three pillars of sustainable development. Articles 88 to 91 of the Ethiopian Constitution require the state to promote the political, economic, social and cultural development of its peoples. Meanwhile, Article 92 provides that "The design and implementation of programmes and projects of development shall not damage or destroy the environment." Moreover, the right to clean and healthy environment and the duty of the Government to ensure this right are

respectively enshrined in Articles 44 and 92(1) of the Constitution. These constitutional provisions call for a balance which addresses the dual constitutional objectives of development without, however, damaging the environment and infringing the constitutional right to clean and healthy environment. The right to development enshrined in the Ethiopian Constitution, thus envisages not only "*Bills of Rights*" but also "*Bills of Responsibilities*'[4] of individuals, investment projects, neighbourhoods, communities and the state.

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4.2. The Right to Development under the Ethiopian Constitution

Article 43 embodies four sub-Articles under the title "*The Right to Development*." Sub-Article 1 states that "The peoples of Ethiopia as a whole, and each Nation, Nationality and People in Ethiopia in particular, have the right to improved living standards and sustainable development." Sub-Article 2 deals with the rights of citizens to participate in development and be "consulted with respect to policies and projects affecting their community." The third sub-Article states the requirement that "All international agreements and relations concluded by the State shall protect and ensure Ethiopia's right to sustainable development." And finally, sub-Article 4 underlines that the "basic aim of development activities shall be to enhance the capacity of citizens for development and to meet their basic needs."

The right to improved living standards envisaged under Article 43(1)

As discussed under Chapter 2, wellbeing presupposes a clean and balanced ecosystem that goes beyond increase in income and material possessions. Article 43(1) expressly states the target beneficiaries of this right to be "Peoples of Ethiopia as a whole, and each Nation, Nationality and People in Ethiopia in particular". On the other hand, Article 89(8) makes reference to the promotion of "health, welfare and living standards of the working population of the country." The words "working population" evoke some query regarding the scope of the provision's coverage. Work seems to be the basis of improved standards of living promised under Article 89(8) of the Constitution. For example, Article 90 of the Constitution does not promise "improved living standards", but instead, the formulation of policies that "provide all Ethiopians access to public health and education, clean water, housing, food and social security" to the extent that resources permit.

One may argue that the right envisaged under Article 90 is narrower than the right accorded to the "working population" under Article 89(8). This line of interpretation is supported by other provisions such as Article 89(2) which requires the government "to ensure that all Ethiopians get equal opportunity to improve their economic conditions and to promote equitable distribution of wealth among them." In other words, the government is expected to formulate policies that create equal opportunities and conditions conducive to development and equitable distribution of wealth. This envisages job opportunities for the unemployed and the poor (Article 41(6)), the right of citizens to be engaged in an economic activity of choice in any part of Ethiopia (Art. 41(1)), and the duty of the State "to increase opportunities for citizens to find gainful employment" (Article 41(7)).

The right to sustainable development envisaged under Article 43 (1)

Sustainable development involves weaker and stronger perspectives of interpretation. As highlighted under Chapter 1 (§ 1.1), the weaker version of sustainable development regards economic growth and the enhancement of investment as preconditions for environmental protection, while the stronger version of sustainable development holds that environmental protection is a precondition to development that can meet the needs of present generations without adversely compromising the needs of posterity. It thus becomes necessary to examine whether the stronger, the weaker or 'hybrid' model of sustainability is envisaged under the Constitution and other Ethiopian laws, which may vary according to the general content and objective of a particular legislation.

The right to participate in national development and to be consulted

Development, according to Amartya Sen presupposes active involvement of people at all levels; and they should be given the opportunity to shape their own destiny, rather than being considered "as passive recipients of the fruits" [5] of development programmes. Article 43(2) duly recognizes the right of nationals to "participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community." This is a fundamental right which raises the question whether communities are being consulted when policies and projects that affect their livelihood and communities are formulated and put into effect. With regard to

floriculture, for example, this right envisages that communities be consulted about the projects and the effects thereof.

The enhancement of capabilities for development and to meet needs

As briefly highlighted under Chapter 2, the human wellbeing dimension of development, *inter alia*, involves the issue of enhancing human capabilities. This seems to be in congruence with Article 43(4) which provides that the "basic aim of development activities shall be to enhance the capacity of citizens. As Sen notes "the state and the society have extensive roles in *strengthening and safeguarding human capabilities*. This, according to Sen, is a supporting role, rather than one of ready-made delivery".[6]

However, the Amharic version of Article 43(4) lacks clarity as compared to the English version. According to the literal translation of the Amharic version, "[t]he main aim of development activities shall be the development of citizens and the satisfaction of their basic needs." Resort should thus be made to legislative intent and context to examine whether the word "development of citizens" refers to "development of capabilities".

Conformity of international agreements with sustainable development

Article 43(3) requires all international agreements and transnational relations to "protect and ensure Ethiopia's right to sustainable development." This provision, at least literally, enables scrutiny of various international commitments that impact sustainable development. For example, current concerns about the impact of passive liberalization in the context of "globalization" evokes the query whether agreements which are concluded or other transnational relations of the State can be regarded as unconstitutional if they do not protect and ensure Ethiopia's right to sustainable development.

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4.3. The Core Features of Ethiopia's Investment Laws

The Investment Proclamation (Proclamation No. 280/2002, as amended) deals with:

- Investment objectives, areas and incentives (Articles 4 to 9);
- Forms of investment capital and requirements for foreign investors (Articles 10 & 11)
- Investment permit (Articles 12 -17);
- Transfer of technology, loans, utilization of foreign currency, and remittance of funds (Articles 18-20);
- Investment guarantees and protection (Article 21);
- Investment administration (Articles 22 to 25); and
- Investment Board, Investment Authority and other miscellaneous issues (Articles 26 to 42).

The objectives of investment as discussed earlier in Chapters 1 and 2 are enshrined in the preamble of the Proclamation and Article 4 of the Investment Proclamation. The general objectives of investment (Article 4, 1st alinea) are *improved living standards* through the realization of *sustainable economic and social development*. As highlighted under Chapters 1 and 2, investments are expected to meet these general objectives and the specific objectives enumerated under Article 4, sub-Articles 1 to 8 of the Investment Proclamation.

Sub-Articles 1, 2 and 5 of the provision are relevant to the balance between investment promotion and environment protection. One of the specific objectives of investment is "to accelerate the country's economic development".[7] The qualifier "*accelerate*" seems to have taken development for granted which is expected to be accelerated by investment. In light of the discussion under Chapter 1, however, development is a complex notion, and its attainment involves challenges that are not usually expressed in the prescriptions, aspirations and promises that accompany the term.

The objective of investment to exploit and develop the "immense" natural resources of the country evokes two issues. First it assumes that Ethiopian natural resources are "immense." And secondly, it envisages the exploitation of natural resources and their development. Such pursuits presuppose that the exploitation of natural resources unaccompanied by their corresponding development will eventually lead to environmental unsustainabiltiy, and in effect, to the impossibility of sustained utilization of resources in the long-run. The need for balanced

development and integrated economic activity among the Regions and the need for a strong "inter-sectoral linkages of the economy" seem to be influenced by the concepts of balanced and integrated development which presuppose various policies and laws that can facilitate such development.

Articles 5 to 8 of the Investment Proclamation deal with:

- areas of investment reserved for the Government (electrical energy, postal services);[8]
- areas of investment allowed for joint venture with the Government (weapons & ammunition, telecommunication);[9] and
- areas of investment open for domestic investors,[10] private-public joint ventures,[11] and foreign investors;[12]

The provisions that deal with investment permit (Articles 12 to 17) address the issues of application, issuance, renewal and suspension of investment permit. Article 13, for instance, sets forth the pertinent information than need to be included in an application for investment permit such as project profile, list of machinery and equipment intended to be exempted from import duties, memorandum and articles of association, etc.

However, impact assessment has not been stated as one of the requirements. Article 13(7) which reads "other relevant information relating to the particulars of the project" cannot be stretched to include impact assessment, because such assessment cannot fall under "particulars of a project." Moreover, the provisions that deal with issuance, renewal, suspension and revocation of investment[13] do not mention the issue of impact assessment.

The Investment Proclamation (Proclamation No. 280/2002), the Investment (Amendment) Proclamation (Proclamation No. 373/2003) and the Regulations enacted pursuant to Proclamation No. 280/2002 [14] and Proclamation No. 373/2003 [15] do not address the issue of environmental compliance standards. This concern is rather left to the Environmental Impact Assessment Proclamation (Proclamation No. 299/2002) and other environmental laws. However these issues could and should have been at least briefly stated through indicative cross-reference in the Investment Proclamations and Regulations.

Although the concern for environmental sustainability is reflected (albeit inadequately) under Article 4(2) of the Investment Proclamation (which envisages not only the *exploitation* of natural resources, but also their simultaneous *development*), most of the stipulations under

Article 4 deal with issues such as foreign exchange earnings, import substitution, balanced development, integrated economic activity, employment opportunities, technology and skill transfer and others. Sub-Articles 1 to 8 of Article 4 of the Investment Proclamation only include a single word in one of the provisions which makes incidental reference to the environmental dimension of sustainable development, and they do not make reference to the social dimension other than the employment opportunities mentioned in Article 4(8) which have economic and social dimensions. They thus fall short of both the '*weaker*' model of sustainable development "whose aim is to integrate capitalist growth with environmental concerns"[16] and the '*strong*' version which "requires that political and economic policies be geared to maintaining the productive capacity of environmental assets (whether renewable or depletable)".[17] While the former considers economic development as a precondition of environmental protection, the latter on the contrary asserts "that environmental protection is a precondition of economic development".[18]

The *ecologist approach* to sustainable development goes even further than the stronger version and advocates for "structural change in society, the economy and the political systems" and "a radical change in the attitude of humankind towards nature" based on 'pure' sustainable development "whereby humankind puts as much into the ecosystem as it takes out." This model does not perceive "overall growth in quantitative terms, as traditionally measured, since humankind is envisaged as living within the finite ecological constraints of the planet" and growth, according to this model is "measured in qualitative terms—through quality of life rather than standard of living".[19]

As highlighted under Section 3.5.1 above, the weaker interpretation of sustainable development highly tilts in favour of economic growth while the ecologist approach is skewed towards preserving the environment for its intrinsic worth. Arguments can be forwarded against the tenability of the ecologist interpretation in the Ethiopian setting. However, no justification can be given to the failure of Ethiopia's investment statutes to meet thresholds below the ecologist interpretation. The extent to which this gap has been effectively addressed under Ethiopia's environmental law regime is an issue which is discussed in the next section.

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4.4. Ethiopia's Laws on Environmental Compliance in Floriculture

The constitutional provisions (highlighted above) on the right to clean and healthy environment are further substantiated by other laws. Three laws in particular deserve attention owing to their relevance to environmental compliance standards in floriculture. They are the Environmental Impact Assessment Proclamation,[20] the Environmental Pollution Control Proclamation[21] and the Council of Ministers Regulation to Provide for the Code of Practice of the Floriculture Sector.[22]

4.4.1. Environmental impact assessment

The purposes of the Environmental Impact Assessment Proclamation include the prediction and management of the environmental effects of proposed development activities in the various phases of design setting, construction, operation, or in relation with ongoing activities.[23] The second rationale enshrined in the preamble of the Environmental Impact Assessment Proclamation (Proclamation No. 299/2002) is "assessment of possible impacts on the environment prior to the approval of a public instrument" with a view to "harmonizing and integrating environmental, economic, cultural and social considerations into a decision making process in a manner that promotes sustainable development".[24] According to Article 2(10) of the Proclamation public instrument refers to "a policy, a strategy, a programme, a law or an international agreement."

The third rationale of the Proclamation is to maximize socio-economic benefits and foster the "implementation of the environmental rights and objectives enshrined in the Constitution" by predicting and managing adverse environmental impact.[25] And finally, the preamble underlines the need for administrative transparency and accountability and the significance of public and community participation "in the planning of and decision making on developments which may affect them and the environment."

As stated earlier in Section 3.4.2 of the preceding chapter, Ethiopia's EIA Proclamation defines impact as "any change to the environment or to its component that may affect human health or safety, flora, fauna, soil, air, water, climate, natural or cultural heritage" in addition to which it includes any change in physical structure or subsequent alterations of "environmental, social, economic or cultural conditions." While assessing the impact of a given project the Environmental Protection Agency, *inter alia*, considers "duration, reversibility, irreversibility or

other related effects of the project" and such assessment also includes "cumulative effect with other concurrent impacts or phenomena".[26] The Proclamation clearly adopts the Precautionary Principle in the course of determining the negative impact of a project. To this end Article 4(2) provides:

> The [Environmental Protection] Authority or the relevant regional environmental agency shall err on the side of caution while determining the negative impact of a project having both beneficial and detrimental effects, but which, on balance, is only slightly or arguably beneficial, and thus determine that it is likely to entail a negative significant impact.

A proponent of any project (private or public) which is required to submit Environmental Impact Assessment shall "identify the likely adverse impacts of [the] project" and incorporate "the means of their prevention or containment".[27] The Environmental Impact Study Report (prepared by experts based on the requirements specified under the relevant directive) together with the documents required are submitted to the Environmental Protection Authority or the relevant regional environmental agency.

The Report shall, *inter alia*, contain "characteristics and duration of all the estimated direct or indirect, positive and negative impacts",[28] "measures proposed to eliminate, minimize, or mitigate negative impacts"[29] and "procedures of self auditing and monitoring during implementation and operation".[30] Evaluation of the Report by the pertinent environment authority or agency can lead to approval, rejection or conditional approval contingent upon the elimination or reduction of "adverse impacts to insignificance" if it is found that "the negative impacts can be effectively countered".[31]

The Proclamation further regulates the occurrence of new circumstances after the submission of an impact assessment study report which may lead to the revision of the impact assessment.[32] Moreover, the compliance of the proponent of the project with all commitments and obligations are evaluated and monitored by the Environment Protection Authority or regional environmental agency.[33] Where necessary, rectification measures are ordered to be undertaken, or the approval for the implementation of the project may be suspended or cancelled. [34] The measures stipulated in the Proclamation may also constitute an offence and involve penalties where, for example, a person "makes false presentations in an environmental impact assessment study report"[35] or fails to keep records or to fulfil conditions of authorization".[36] Where the offence is committed by a juridical person "the manager who failed to exercise all due diligence shall be liable to a fine". [37]

It is to be noted that Article 18(5) of the Proclamation further requires the restoration of the damage inflicted or compensation in addition to conviction and penalty for the offence.

However, the Environmental Impact Assessment Proclamation (Proclamation No. 299/2002) does not identify the sectors that are required to conduct environemntal impact assessment. As Ato Solomon Kebede[38] notes, the Proclamation was rather a framework legal document and not a binding law *per se* until the sectors required to conduct EIA were identified in 2008 by Directives[39] issued by the Ethiopian Environmental Council. The level of the Directive's enforceability is debatable because it has not been issued as Regulations by the Council of Ministers. The EIA Proclamation was not thus functional on flower farms until 2008.

4.4.2. Environmental pollution control

The preamble of the Environmental Pollution Control Proclamation[40] states that "some social and economic development endeavors may inflict environmental harm that could make the endeavors counter-productive". It also underlines the duty and responsibility to protect the environment, and in particular to safeguard "human health and wellbeing" and also maintain "the biota and the aesthetic value of nature." To this end the preamble notes the need "to eliminate or, when not possible to mitigate pollution as an undesirable consequence or social and economic development activities."

Various provisions of the Proclamation are relevant to the environmental compliance standards required of the flower sector. The terms environment, chemical, effluent, hazardous material, hazardous waste, pollutant, release and pollution are among the terms defined under Article 2 of the Proclamation. Pollution is defined as "any condition which is hazardous or potentially hazardous to human health, safety, or welfare or to living things created by altering any physical, radioactive, thermal, chemical, biological or other property of any part of the environment"[41] in violation of the law. The Proclamation defines the environment as follows:

> 'Environment' means the totality of all materials whether in their natural state or modified or changed by humans, their external spaces and the interactions which affect their quality or quantity and the welfare of human or other living beings, including but not restricted to, land, atmosphere, weather and climate, water, living things, sound, odour, taste, social factors, and aesthetics.[42]

In relation to floriculture, the release of liquid from the green houses to surface or ground freshwater systems or any release of gas while burning green waste or other waste or inappropriately disposing of any other harmful gas or liquid satisfies the definition of 'effluent' which is defined under the Proclamation as "waste water, gas or other fluid, treated or untreated, discharged directly or indirectly into the environment".[43] The release of gas or liquid in a manner that harms unprotected (or inadequately protected) workers against chemicals and pesticides also falls under effluent.

The categories of pesticides and chemicals that are classified as harmful fall under the following definitions of hazardous material and hazardous waste:

> 'Hazardous material' means any substance in solid, liquid or gaseous state, or any plant, animal or micro organism that is injurious to human health or the environment.[44]
>
> 'Hazardous Waste' means any unwanted material that is believed to be deleterious to human safety or health or the environment.[45]

The other term that is relevant to the flower sector is the word 'pollutant' which is defined in the Proclamation as "any substance whether liquid, solid, or gas which directly or indirectly ... alters the quality of any part of the receiving environment so as to effect its beneficial use adversely"[46] or "produces toxic substances, diseases, heat, or any other phenomenon that is hazardous or potentially hazardous to human health or to other living things".[47]

An act or omission of "placing any pollutant in the environment in any way, be it intentionally or otherwise" shall constitute 'release' of pollutant under Article 2(15) of the Proclamation. The word 'otherwise' is wider than negligence. The Amharic phrase '**ታስቦም ይሁን ሳይታሰብ** (tasibom yihun saitaseb)' means 'whether it is intended or unintended'. Even where advertent or inadvertent negligence that falls under Article 59 of the Ethiopian Criminal Code is not proved, the word 'otherwise' seems to cover not only cases of negligence but can also include strict liability irrespective of moral guilt (in the forms of intention or negligence). However, the issue whether such strict liability should extend beyond civil liability (to include criminal liability as well), is debatable.

According to Article 3(1) of the Proclamation "No person shall pollute or cause any other person to pollute the environment by violating the relevant environmental standard". Sub-Articles 3, 4 and 5 of the same provision provide the following:

(3) Any person engaged in any field of activity which is likely to cause pollution or any other environmental hazard shall, when the Authority or the relevant regional environmental agency so decides, install a sound technology that avoids or reduces, to the required minimum, the generation of waste and, when feasible, apply methods for the recycling of waste.
(4) Any person who causes any pollution shall be required to clean up or pay the cost of cleaning up the polluted environment in such a manner and within such a period as shall be determined by the Authority or by the relevant regional environmental agency.
(5) When any activity poses a risk to human health or to the environment, the Authority or the relevant regional environmental agency shall take any necessary measure up to the closure or relocation of any enterprise in order to prevent harm.

The phrase "relevant environmental standard" in Article 3(1) is crucial in the effective application of this provision, i.e. Article 3, titled 'control of pollution', and the Proclamation in general. The provision that addresses the issue of environmental standards is Article 6. The provision entrusts the Environmental Protection Authority with the responsibility of formulating "practicable environmental standards based on scientific and environmental principles." Article 6, *inter alia*, refers to standards "for the discharge of effluents into water bodies and sewage systems", and "for the types and amounts of substances that can be applied to the soil or be disposed of on or in it." Article 6 also requires the Environmental Protection Authority to formulate standards in waste management by "specifying the levels allowed and the methods to be used in the generation, handling, storage, treatment, transport and disposal of the various types of waste."

In the absence of such measurable standards, most of the stipulations in the various laws on environmental protection (including the Ethiopian Pollution Control Proclamation) would largely remain weak. Even if there are provisions on inspectors (Articles 7-9), offences and penalties (Articles 12-17), and other provisions that deal with enforcement, they are likely to be largely ineffective if the formulation of valid and measurable standards and the institutional framework commensurate with the nature and scope of environmental degradation in Ethiopia are not put in place.

4.4.3. The Regulation on codes of practice in floriculture

Express standards (in the form of legally binding Regulations) were not, during the formative years of the Ethiopian flower industry, issued as thresholds of impact assessment and compliance monitoring in investments such as floriculture. The Regulation issued in June 2011 addresses this gap as it deals with codes of conduct in floriculture and certification levels.

The purpose of the *Regulation to Provide the Code of Practice of the Floriculture Sector* is to implement "good agricultural practices in the floriculture sector" in order "to avoid undesirable environmental and social impact".[48] The Regulation is meant to "define and regulate the essential elements of environmentally sustainable and socially acceptable agricultural practices to enhance the sustainability of the floriculture industry".[49] Moreover, it aims at enhancing "the reputation of the Ethiopian floriculture industry" by putting in place a "certification system that determines the level of compliance with the requirements of environmental and social responsibility".[50]

The rationale of the Regulation embodied in the preamble is further substantiated by Article 3 which states that the Regulation has the objective of improving "the performance and market competitiveness of farms through the realization of environmental and social sustainability requirements". To this end, the Regulation empowers the Environmental Protection Authority to grant a certificate that attests "the level of social and environmental compliance of a farm with the provisions of this Regulation" and sets forth tiers of compliance standards that are designated as "Bronze, Silver or Gold levels of excellence".[51]

The regulation applies to farms that are "engaged in the production of cut flowers, other ornamental plants or flower seedlings"[52] and renders certification a requirement for engagement in flower growing.[53] The certification of social and environmental compliance at the Bronze Level is the minimum standard that should be met by a farm to be allowed to continue flower growing. Thirteen compliance standards are embodied in Article 5 of the Regulation and they include:

- the prohibition of using banned or un-registered agrochemicals,
- putting in place sound waste management,
- assessment of risks related to the environment and occupational safety,
- safe storage and use of agrochemicals,
- medical services and occupational health,

- labour conditions including the right to organize and collective bargaining,
- training on compliance standards, safe handling of agrochemicals and protective devices (including washing facilities),
- internal monitoring schemes to ensure compliance,
- the implementation of accident and emergency procedures,
- remedial actions which should be indicated by monitoring, and
- evaluation reports[54] and others.

The Bronze compliance level of certification also includes the duty to "measure, evaluate and report" the performance of a flower farm "on its performance relating to its consumption of water, use of agrochemicals, management of waste and consumption of energy".[55]

A flower farm that aspires to attain the Silver Compliance Level should, in addition to the Bronze Level compliance standards, fulfil "good agricultural practices required by the prevailing international market" and put in place acceptable auditing system which "allows periodic evaluation of its social and environmental management practices".[56] Moreover, the farm should comply with "good practices that ensure efficiency in water use" and on "post harvest practices and accepted pesticide residue levels".[57] The Silver Compliance Level also requires putting in place complaint and response procedures not only for employees but also for visitors and stakeholders.[58]

The highest level of excellence in compliance standards is the Gold Compliance Level stipulated under Article 7 of the Regulation requires the following:

1. Demonstration of "compliance with all the requirements of the Silver Level at the time of auditing for the Gold Level".
2. Ensuring " that the social and environmental management plan of the farm complies with the following requirements in addition to those specified for the Silver Level:
   a) support urban or rural local communities through financing demand driven skill enhancement programmes,
   b) finance community, school environment clubs and other initiatives that are designed to prevent soil erosion, to enhance vegetation cover and carrying capacity of lakes and wetlands, to conserve biodiversity and to improve the quality of rivers, groundwater and air."

The Regulation further deals with the application of farms for certification (Art. 10) if they fulfil the social and environmental compliance standards embodied in the Regulation. The application,

inter alia, requires "social and environmental management plan prepared by qualified experts" and "financial audit report verified by a recognized independent auditor" should be submitted.[59] Upon receipt of application for certification, the Environmental Protection Authority (EPA) shall assign a validator who reviews documents and undertakes "on-site inspection and product testing as appropriate".[60] EPA "shall grant a certificate if the farm is in compliance with the requirements of these Regulations"[61] and it shows the level of social and environmental compliance.

Where farms are found to be below the Bronze Level of Certification, EPA shall inform the "Ethiopian Horticulture Development Agency established by Council of Ministers Regulations No 152/ 2008 to take appropriate actions".[62] EPA may also "take all the necessary actions to ensure implementation and effectiveness" of the Regulation in consultation with "the Ministry of Labour and Social Affairs, Ethiopian Horticulture Development Agency and other relevant government agencies".[63]

The certificate of compliance shall be valid for two years,[64] and there shall be internal audits[65] by the farms every two years. A similar timeline of two years also applies to the periodic re-evaluation[66] conducted by EPA. The period of inspection envisaged under Article 16 of the Regulation, however, is expected to be relatively frequent and is different from the task of re-evaluation.

Solomon Kebede underlines that the minimum standards of social and environmental compliance are legal requirements that should not have been regarded as a certification level.[67] In other words the Bronze level should have been a threshold above the minimum standards that are legally required. Unless the minimum standards are fulfilled the farm cannot operate, and this should not be regarded as the Bronze standard.[68]

Yet, the Regulation is commendable as it is legally enforceable unlike the voluntary Code of Practice issued by Ethiopian Horticulture Producer Exporters Association. Meanwhile, it is important to note that its legal enforceability is, at present, adversely affected by the delay in the issuance of Directives by the Ethiopian Environmental Protection Authority in this regard. The field research and particularly interviews at Oromia Environment Protection Agency[69] and Ethiopian Horticulture Producer Exporters Association[70] show that the delay has adversely affected the enforcement of the Regulations.

Self-certification may not be as effective as certification by an independent authority where the validator has no relationship with the flower grower.[71] Even where the validator is external, independence can be compromised if the service charge is paid by the flower grower. Ato Solomon thus suggests that the participation of stakeholders is crucial in the certification process so that the scheme can gain neutrality and credibility. This is ultimately to the best interest of the flower farms because such credible certification levels can serve as effective promotional tools in the export market.

Any impact assessment becomes mere cosmetic approval if it regarded as a procedural rubber stamp solely based on review by a validator who is not independent or by a consultant. Environmental impact assessment is thus expected to be done before the implementation of an investment project and any assessment that is done after the implementation of a project has started (even if it is yet at its earlier phase) is post-development audit and not EIA.[72]

As Solomon Kebede notes, the flower sector needs to put in place environmental management system which involves questions such as "where are we? where do we want to go? and how do we get there?"[73]

> Environment management plans should have been submitted by every flower farm and the implementation should have been carefully monitored and enforced. The environmental risk in areas such as Ziway needs utmost attention. The environmental harm in Zway will affect the ecosystem including freshwater resources, fisheries and migratory birds in various rift valley lakes and streams because Bulbula river flows from Ziway to Lake Abyata and then to Lake Shala.[74]

Lake Ziway is steadily losing its green belt of vegetation cover due to the farms that surround it which are causing siltation. The increasing volume of water drainage from the lake for irrigation and flower farms exacerbates the environmental risk. The impact goes beyond Lake Ziway. A case in point is Lake Abiyata which is under a serious threat because of the diminishing inflow from Lake Ziway and increasing extraction from Lake Abyata for soda ash.[75] Lessons should have been drawn from Lake Haramaya that has dried up even if the country's pioneer agricultural university that has taken its name from the lake is situated at its bank with a significant number of experts, professors and researchers who were expressing their concerns about the risk which ultimately became a reality.

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4.5. Institutional Challenges in Environmental Impact Assessment

In spite of the normative framework on environmental protection highlighted in the preceding sections, the level of attention given to the institutional framework inclines towards investment promotion rather than environment protection. For example, the Environmental Protection Authority is not a Ministry while investment promotion is facilitated by a number of ministries and agencies. The other option could have been independence of the Environmental Protection Authority from the executive branch of the government.

In addition to the absence of such schemes of independence and empowerment, the mandate of the Authority to review environmental impact assessment has been eroded as a result of the delegation of the impact review to sectoral agencies. Moreover, environmental mainstreaming is not embedded in the functions of agencies because the laws and policies that define the powers and duties of the agencies are not mostly cross-sectoral and do not integrate social and environmental compliance standards in their functions. The following is a summary of an in-depth discussion with Ato Solomon Kebede,[76] Director or Standards and Programmes Directorate at the Environmental Protection Authority, regarding lack of cross-sectoral considerations in policies that affect the environment.

4.5.1. The need for cross-sectoral policies and assessment

In light of Ethiopia's green development strategy, floriculture raises concerns such as water consumption, pest-resistant seed varieties and waste disposal. These issues involve cross-sectoral considerations which ought to have mainstreamed social and environmental concerns in addition to the economic objectives of financial returns. Solomon underlines that most laws and policies are usually sectoral rather than cross-sectoral. The laws and policies that are formulated to enhance investment should have been cross-sectoral rather than leaving the issue of social and environmental compliance to other laws and policies. This could have facilitated the mainstreaming of social and environmental issues in all investment projects including floriculture.

During the initial years of the flower sector, the core factors that were considered were the attraction of FDI and job creation. Investors in flower farms focused on low labour cost and the availability of land at a very low price. They also wanted to be closer to Bole Airport, and prime

teff and wheat lands were given to flower farms irrespective of the adverse impact on food security. Water was also made available for free. With regard to job creation, the daily wages during the initial years ranged between Birr 8 to 12, with clear disparity between genders. Many flower farms focused on short-term benefits during which they are exempted from income taxes. The fact that the investment law allows foreign investors to repatriate 100% of their profit renders it essential to carefully examine the actual economic benefits without being misled by the aggregate figures of foreign exchange earnings. It was also possible for foreign investors to obtain most of their capital from local bank loans. It was easy for such foreign investors to obtain loan with foreign bank guarantees and by using imported second hand greenhouses as collateral.

The fact that most laws are sector eschewed and that they do not usually take cross-sectoral environmental issues into account is problematic. For example, the concentration of many flower farms in a certain location had brought about water shortage and salinization which then involved more cost for desalinization. At present, there is growing awareness about the adverse impact of pesticide residue in export marketability, the carcinogenic nature of prohibited chemicals such as methane bromide and other issues. Yet, the level of awareness and regulatory schemes were very weak particularly during the earlier years of Ethiopian floriculture.

Despite such problems, the physical texture of Ethiopian flowers was steadily gaining acceptance in export markets particularly owing to the altitude and climatic factors. There were efforts on the part of competitors to question the social and environmental compliance standards of flower growing in Ethiopia which forced growers into codes of practice. Certification standards were thus expedient and the Ethiopian Horticulture Producer Exporters Association has, since 2007, taken a commendable initiative towards voluntary standards, which is indeed a very positive development.

4.5.2. Disempowered EPA due to sectoral delegation

The Environmental Protection Authority is established by Proclamation No. 295/2002.[77] The following preamble clearly states the *raison d'être* of the Proclamation:

> WHEREAS, assigning responsibilities to separate organizations for environmental development and management activities on the one hand, and environmental protection, regulations and monitoring on the other is instrumental for the sustainable use of

environmental resource, thereby avoiding possible conflicts of interests and duplication of efforts;

WHEREAS, it has become necessary to establish a system that fosters coordinated but differentiated responsibilities among environmental protection agencies at federal and regional levels;

. . . .

The first paragraph clearly states the need to create an independent environment protection structure (i.e. Environmental Protection Authority and regional environmental agencies) separate from the public organs that are in charge of environmental development and management (e.g. Ministry of Agriculture, Ministry of Water and Energy, etc). The phrase "thereby avoiding possible conflicts of interests and duplication of efforts" clearly shows the rationale for the establishment of independent environment protection organs outside the sectoral ministries and other entities in charge of development, public utilities and public administration.

For example, the powers and duties of the Ministry of Agriculture include the following:

- formulate and facilitate the implementation of a strategy for natural resources protection and development through sustainable agricultural development;[78]
- ensure the proper administration and control of pesticides and veterinary drugs; [79]
- expand small-scale irrigation schemes to enhance agricultural development;[80]
- ensure the proper execution of functions relating to agricultural research, conservation of biodiversity and the administration of agricultural investment lands entrusted to the federal government on the basis of powers of delegation obtained from regional states.[81]

The functions stated above clearly involve powers and duties of environmental development and management which cohabit with the Ministry's economic objectives. The preamble of the Proclamation that has established the Environmental Protection Authority clearly shows that such ministries will encounter conflict of interest if they are allowed to review Environmental Impact Assessment (EIA) in relation with their own projects. For example, the pursuits of the Ministry of Agriculture to "enhance agricultural development" or its tasks of allocating farmland to investors coexist with its environment management duties to "natural resources protection", "control of pesticides", or "conservation of biodiversity".

Although its sectoral environmental unit can "coordinate and follow" up the environmental compliance aspects of the Ministry's projects as envisaged under Article 14 of the Proclamation,

the power of reviewing EIA in the Ministry's projects should involve an independent external environmental authority or agency. The same holds true with other sectoral agencies such as the Ministry of Water and Energy. For example, the tension and harmony between its duties to "promote the development of water resources and energy"[82] requires an independent authority in charge of monitoring the balance. Even more so, the functions of most ministries such as the Ministry of Mines almost entirely focus on economic or other activities with meagre environmental development functions and cross-sectoral concerns. Even if the environmental units in these ministries can render significant contribution in environmental mainstreaming, they will naturally encounter conflicts of interest to conduct independent review on EIA reports and independently monitor their implementation.

Contrary to the checks and balances envisaged in the preamble of Proclamation No 295/2002, the organs in charge of development projects are entitled to review the environmental impact assessments of their own projects. In addition to the substantive violation of the principle of avoiding conflict of interest enshrined under Proclamation No. 295/2002, the procedure in which the sectoral delegation is made is not legally tenable because the medium of the delegation was a letter by the Environmental Protection Authority upon the decision of the Environment Council by citing the decision of the Council of Ministers. Apparently, the stipulation under Proclamation No. 295/2005 could have only been amended by another proclamation.

The Sectoral Environmental Unit of the Ministry of Mines invokes Article 14 of Proclamation 295/2002 and states that "The Federal Environmental Protection Authority [has] delegated Ministry of Mines to review environmental impact assessment (EIA) reports of the sector's development projects and to authorize their implementation and monitor the authorized project as per the Environmental Impact Assessment Proclamation No.299/2002".[83] The statement further reads "This power delegation is made by the Decision of the Council of Ministers and as per Article 6(24) Proclamation No. 295/2002".[84]

The provisions cited to justify the mandate are Articles 14 and 6(24) of the Proclamation. Article 14 deals with the establishment or designation of a Sectoral Environmental Unit which "shall be responsible for coordination and follow-up so that the activities of the competent agency are in harmony with this Proclamation and with other environmental protection requirements." This provision merely envisages 'coordination and follow up' which are clearly

different from *reviewing* the environmental impact assessment of a project, *authorizing* its implementation, and *monitoring* the authorized project based on the Environmental Impact Assessment Proclamation.

Nor can the sectoral delegation be justified by Article 6(4) which allows the Environmental Protection Authority to "delegate some of its powers and duties, as it may be deemed appropriate, to other agencies." Even if EPA is allowed to delegate certain powers and duties, delegating a Ministry to review the Environmental Impact Assessment of its own project, to authorize the project's implementation and to monitor its own compliance clearly contradicts the very purpose of the Proclamation as it is enshrined in the preamble. The following three paragraphs highlight the in-depth discussion with Solomon Kebede in this regard.[85]

At present, EPA has no entry point in the EIA process in projects conducted by the various ministries that have obtained sectoral delegation. All it can do is state whether a review is conducted by a sectoral environmental unit. There is an independent Agency in Canada. Others invite experts from various places based on sitting allowance. There is also the need for disclosure plan so that the data about the project would be accessible. EIA is a public document and should involve public hearing. It is the local resident and the expert who should be heard about concerns such as biodiversity. Environmental impact assessment thus involves various administrative and legal issues. It also requires public participation and institutional competence. Such independent and competent environmental impact assessment is credible and beneficial to development project proponents both public and private.

The sectoral environmental units are not staffed with human resources that will enable them to review EIA. And other resources are not also put in place. The complaint against EPA's exclusive mandate for EIA review did not thus represent the position of all public organs that undertake development projects. If delegation is regarded as expedient, the delegation should have been made to regional environmental agencies.

Solomon notes that the focus ought to be on the future rather than the past which was laden with lots of problems. Projects are rejected only when such decisions are unavoidable due to their irreversible impact on the social wellbeing and the environment. The sole function of the Environmental Protection Authority (EPA) is to assist development which is environmentally sound, competitive, value adding and that enhances technology transfer. The Ethiopian

Environment Protection Authority is agent for sustainable development. However, it needs independence same as the judiciary and should be based on public participation and expertise. It is the public that can be aware of the impact of a project on livelihood packages and others. The economic, social and ecological aspects should thus be objectively, validly and neutrally assessed.

Even if the sectoral delegation applies to the public sector, the disempowerment of the Environment Protection Authority adversely affects its overall institutional capability to regulate and monitor standards of environmental compliance. Weak environmental compliance standards (in relation with mega projects) naturally influence floriculture and other sectors. On the one hand, they erode the moral authority of regulatory bodies to implement environmental compliance standards solely on the private sector, and secondly the disempowerment of the Environmental Protection Authority in the realm of environmental impact assessment weakens its efficiency and effectiveness in carrying out other mandates as well.

The legal regime and institutional framework discussed in this chapter have a crucial role in the balance between investment promotion, development, social wellbeing and environmental sustainability in Ethiopia's flower sector. Even if the environmental laws and regulations highlighted in this chapter are commendable, there are gaps in the enforcement of environmental compliance.

This constitutes a challenge rather than an opportunity for flower exporters because, as the next chapters indicate, weak compliance standards adversely affect the marketability and competitiveness of flowers in the global market. This is because the global value chain in floriculture, as discussed in the next chapter is buyer driven as a result of which the buyer's social and environmental concerns need to be taken into account in the course of flower growing and post-harvest flower handling.

* * *

Notes

[1] Marie-Claire Cordonnier-Segger and Ashfaq Khalfan, 2004**.** "Principles of International Law Relating to Sustainable Development" in Cordonnier-Segger and Khalfan eds. *Sustainable Development Law: Principles, Practice and Prospects.* Oxford UP, Oxford, Chapter 2.

[2] ".... The principle recognizes differences in the contributions of developed and developing States to global environmental problems, and differences in their respective economic and technical capacity to pursue sustainable development." (p. 56)

"... The techniques available in differentiated responsibility include 'grace periods', or delayed implementation and less stringent commitments...." (p. 57)

[3] "Precaution means that if a risk is not certain, this will not be used as an excuse to prevent measures which could mitigate the harm. ..." (p. 61)

[4] Audrey R. Chapman, for example, advocates the reintegration of rights and responsibilities. (*International Rights and Responsibility for the Future*, K. W. Hunter and T. C. Mack, eds. 1996)

[5] Amartya Sen (1999) *Development as Freedom* (Oxford University Press), p. 53.

[6] *Ibid*.

[7] Proc. No. 280/2002, Article 4(1).

[8] *Ibid*, Art. 5(1).

[9] *Ibid*, Art. 5(2).

[10] *Ibid*, Art. 6.

[11] *Ibid*, Art. 7.

[12] *Ibid*, Art. 8.

[13] *Ibid*, Arts. 14-16.

[14] Investment Incentives and Investment Areas Reserved for Domestic Investors Council of Ministers Regulations No. 84/2003.

[15] Investment Incentives and Investment Areas Reserved for Domestic Investors Council of Ministers Amendment Regulations No. 146/2008.

[16] Susan Baker, Maria Kousis, Dick Richardson and Stephen Young (eds.) (1997), *The Politics of Sustainable Development: Theory, policy and practice within the European Union* (New York & London: Routledge) p. 12.

[17] *Ibid*, 13.

[18] *Ibid.*

[19] *Ibid*, 15.

[20] Proclamation No. 299/2002.

[21] Proclamation No. 300/2002.

[22] Council of Ministers Regulation No. 207/2011. Council of Ministers Regulation to Provide the Code of Practice of the Floriculture Sector.

[23] Proclamation No. 299/2002, Preamble, Paragraph 1.

[24] *Ibid*, Preamble, Paragraph 2.

[25] *Ibid*, Preamble, Paragraph 3.

[26] Proclamation No. 299/2002, Article 4(1).

[27] *Ibid*, Article 7(1).

[28] *Ibid*, Article 8(2)(e).

[29] *Ibid*, Article 8(2)(f).

[30] *Ibid*, Article 8(2)(j).

[31] *Ibid*, Article 9(2).
[32] *Ibid*, Article 11.
[33] *Ibid*, Article 12.
[34] *Ibid*.
[35] *Ibid*, Article 18(2).
[36] *Ibid*, Article 18(3).
[37] *Ibid*, Article 18(4).
[38] Interview with Ato Solomon Kebede, Director, Environmental Standards Programme Directorate, Environmental Protection Authority (and former Head, Environmental Impact Assessment Services), 18 May 2012.
[39] Directive No. 1/ 2008 issued to determine the categories of projects subject to the Environmental Impact Assessment Proclamation No. 299/2002.
[40] Proclamation No. 300/2002.
[41] *Ibid*, Article 2(12).
[42] *Ibid*, Article 2(6).
[43] *Ibid*, Article 2(5).
[44] *Ibid*, Article 2(8).
[45] *Ibid*., Article 2(9).
[46] *Ibid*., Article 2(11)(a).
[47]*Ibid*., Article 2(11)(b).
[48] Council of Ministers Regulation No. 207/2011. Council of Ministers Regulation to Provide the Code of Practice of the Floriculture Sector, preamble.
[49] *Ibid*.
[50] *Ibid*.
[51] *Ibid*, Art. 2(2).
[52] *Ibid*, Art. 4(2).
[53] *Ibid*, Art. 4(1).
[54] *Ibid*, Art. 5(1) to 5(8), 5(10) to 5(12).
[55] *Ibid*, Art. 5(9).
[56] *Ibid*, Art. 6(1), 6(2)(a) & (b).
[57] *Ibid*, Art. 6(2)(c) & (d).
[58] *Ibid*, Art. 6(2)(e).
[59] *Ibid*, Art. 10.
[60] *Ibid*, Arts. 11(1) & 9.
[61] *Ibid*, Art. 11(2).
[62] *Ibid*, Art. 15(3).
[63] *Ibid*, Art. 15(7).
[64] *Ibid*, Art. 13(1).
[65] *Ibid*, Art. 14.
[66] *Ibid*, Art. 13(3).
[67] Interview with Ato Solomon Kebede, *supra* note 38.
[68] *Ibid*.

[69] Interview with Ato Mohammed Ibrahim, Oromia Rural Land and Natural Resource Administration Authority, Vice Head, Environment Protection Core Process Leader, 07 June 2012.

[70] Interview with Dr. Glenn Humphires, Training Coordinator, Ethiopian Horticulture Producer Exporters Association, 26 June 2012.

[71] *Ibid*.

[72] *Ibid*.

[73] Interview with Ato Solomon Kebede, *supra* note 38.

[74] *Ibid*.

[75] See for example

- *Tenalem Ayenew (2007),* "Some Improper Water Resources Utilization Practices and Environmental Problems in the Ethiopian Rift", *Africa Water Journal*, Vol. 1, No. 1, pp, 89, 100
- Tenalem Ayelew (2002), "Recent changes in the level of Lake Abiyata, central main Ethiopian Rift", *Hydrological Sciences"* 47(3) June 2002, p. 500

[76] Interview with Ato Solomon Kebede, *supra* note 38.

[77] Environment Protection Organs Establishment Proclamation No. 295/2002.

[78] Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia Proclamation, No. 691/2010, Article 19(1)(e).

[79] *Ibid*, Art. 19(1)((g).

[80] *Ibid*, Art. 19((1)(m).

[81] *Ibid*, Art. 19(1)((o).

[82] Ibid, Art. 26(1)(a).

[83] <http://www.mom.gov.et/upload/Brosure.pdf> Last visited, 26 May 2012.

[84] *Ibid*.

[85] Interview with Ato Solomon Kebede, *supra* note 38.

5

The World Flower Market and the Global Value Chain

Chapter 3 has, *inter alia*, addressed the methods and concepts that can inform the balance between investment promotion and environment protection with a view to achieving the objectives embodied in Ethiopia's investment laws. The harmony and the tension between the rights to 'development' and 'clean environment' have further been discussed in Chapter 4 in light of the normative and institutional challenges. This chapter takes the issues further (from the general concepts of development, wellbeing, cost-benefit balance, etc. and from the normative framework) onto a more specific discussion and analysis in the context of the world flower market and the global value chain in floriculture.

The global flower chain determines the governance and the cost and profit structure of the economic activities of developing countries in their pursuits towards development. Section 5.1 highlights the world flower market with particular focus on US and Dutch flower markets. The vertical and horizontal integration between the supply, production and marketing chains in the Dutch flower market is discussed in Section 5.2. The last two sections of this chapter briefly discuss the global value chain in floriculture and the product standards thereof. This chapter lays a foundation for the discussion in the next chapter regarding the lessons that can be drawn from the comparative experience in three major flower exporters from the Global South.

5.1. The World Flower Market

5.1.1. General Profile

Until the 1970s, local production was adequate for flower consumption in most countries and "international trade in cut flowers was primarily limited to cross-border trade".[1] The enhanced frequency and reliability of air transport coupled with "the development of sophisticated receiving, handling, and shipping facilities in many countries has allowed for a world market in fresh-cut flowers".[2] In the 1970s and 1980s, there was a steady increase of world trade in cut

flowers, a trend which continued in the 1990s. This trend has continued to date in spite of the intervals of rise and decline in demand, production and value in the world trade of cut flowers.

The total world consumption of cut-flowers is steadily increasing. In 1985, it was US$ 12.5 billion, and it rose to US$ 25 billion and US$ 31 billion[3] in 1990 and 1995 respectively. During the two decades from 1972 to 1991, there was a continuous growth in the flower market "with export sales increasing ninefold" followed by "exceptional declines in 1992 and 1995" and resumption of growth in 1996 and 1997.[4]

The world floriculture market (which represents total production for local consumption and exports) "is estimated to be worth US$ 60 billion, [and] production is growing at a rate of 8-10 % per annum".[5] The estimates of the volume of the world flower market of some writers, however, ranges between US$ 40 billion[6] and US$ 50 billion.[7] The highest consumption in cut flowers is in Western Europe, North America and Japan. Moreover, other countries in Asia are expected to augment consumption in the course of "rise in expendable income and a flower minded culture".[8]

About one third of the total world consumption for cut flowers is in the USA "followed by Germany (about 20%), Italy and France".[9] The Netherlands exports 60% of the world's floricultural products, and it "is also a big importer but exports most of its imports".[10] The total value of world export of cut flowers rose from 1.25 billion dollars in 1982 to 3.6 billion dollars in 1995. These figures merely show world export in cut flowers and not the flower industry in general which includes "the cultivation of and trade in cut flowers, cut foliage, potted plants and bedding plants".[11] The main cut flowers are "rose, chrysanthemum, carnation and lily", and cut flowers and potted plants constitute 80% of the total volume of world trade in ornamental plant products.[12]

In 2005, the "total value of ornamental floral products traded in the world markets" was "higher than around $8.5 billion of which $5 billion [was] represented by cut flowers and fillers and $3.5 by plants and propagation cuttings".[13] During this period, the Netherlands, Colombia, Ecuador and Kenya represented 83 % of the exports, and 73% of the products were imported by Germany, United Kingdom, United States, Holland and France.[14] In 2003, the flower export of the Netherlands "(excluding potted plants and other forms of flower production) were valued at

U.S. $ 2.8 billion".[15] The trend of the international flower market from 2002 to 2005 showed "an increased concentration in the percentage of exports and decrease in imports".[16]

There has been a marked change in the world market in cut flowers after various countries, particularly Colombia, Kenya and Ecuador steadily managed to enter into the market with significant competitive advantages such as labour cost and price of land. The major challenges encountered by the Dutch flower industry included "increasing competition from foreign suppliers, market saturation in Western Europe, trade liberalization due to GATT [and preferential treatment to developing countries despite GATT] and lower margins in mass products".[17]

Even though the markets in Western Europe are becoming saturated, it is expected that there will be an increase in per capita flower consumption in USA and Japan and a rise in the flower consumption of Asian and Eastern European countries. There is also the expectation that the consumption of cut flowers will rise in Latin America, the Middle East and Africa in the course of economic development and the enhancement of values and life styles that increase the demand for flowers.

5.1.2. The U.S. flower market in historical perspective

U.S.A. is the major export destination for the flower production in many countries, and in particular Colombia and Ecuador. The 1970s were very favourable to flower exports to the US Market because it was during this period that the US flower market significantly became globalized. This brought about a significant change in consumption trends because before this period domestically produced flowers were adequate for the US market.

Before the nineteenth century, the 'culture of flowers' involved a very small percentage of the population and it mainly included the households of "kings, nobles and wealthy merchants" who had "the leisure and resources for such activities".[18] This culture was criticized by the Christian church as a "culture of luxury" and as a wasteful expenditure which diverts "limited resources to the production of luxuries to the rich".[19]

> Fresh flowers have long had a role in supporting cultural meanings and expressing certain social and cultural values. Goody's useful term the 'culture of flowers' incorporates some of the complexity of this role. It implies simultaneously the cultivation and growing of

> plants and flowers, the meanings assigned to flowers, and the spread of 'knowledge, the enjoyment and richness of flowers'. The term also encompasses 'the complex social and cultural organization of production' and the sense that flower growing accompanies rising standards of living, a certain level of luxury, and 'civilization'."[20]

Ziegler shows that the industrial revolution gradually led to "the creation of industrial wealth, new businesses, and new kind of employment that eventually assisted the formation of new class sectors".[21] As the percentage of the middle class, the lower-middle class of business proprietors, and affluent employees "in a bureaucratized, impersonal, hierarchical working structure"[22] increased, middle class values and lifestyles expanded. Meanwhile, the ideas "about Puritan thrift, Christian virtue" gave way to "displays of luxury and consumption".[23]

This was further entrenched since the 1870s and particularly after the 1900s, amidst which "the culture of flowers became a component of the expression, elaboration, and stabilization of a developing middle class culture".[24] For example, "in 1899, a New York florist claimed that floral expenditures (in terms of flower stems sold) had increased one hundred times over the previous five years along with growing number of debutante balls, cotillions, marriages and other society celebrations".[25] The U.S. flower industry flourished during the same period.

Until the mid and late 1960s, "the entire US demand was met by domestic flower growers with the exception of small quantities of flowers imported from Canada, the Netherlands and Mexico".[26] As Colombian flowers steadily increased in the U.S. market, there was open concern from domestic growers "about the quantities of cheaper flower imports coming from Colombia." For example, "California growers and shippers, who were responsible for a third of the nation's flowers, claimed they had lost 70 percent of their eastern sales to Colombian flowers".[27]

The efforts of U.S. flower growers and the various regional and national associations formed to this end were not supported by "importers, wholesale florists, and retail florists" who benefit from "the steady supplies of inexpensive imported blooms".[28] Moreover, the global trends in production and marketing were not conducive to the sustainability of most small scale domestic growers as supermarkets took the lion's share in the flower market.

5.1.3. Dutch Auction Markets

The commercial production of flowers and plants in the Netherlands can be traced back to the 1800s.[29] Catherine Ziegler quotes Daniel Defoe who in 1728 described the role of the Dutch in world trade as being "the Middle Persons in Trade, [and]... the Factors and Brokers of Europe ...". He added that "... they buy to sell again, take in to send out, and the greatest Part of their vast Commerce consists in being supply'd from All Parts of the World, that they may supply All the World again".[30] Defoe's observation is manifested in the level of entrepreneurship and innovation that underlies the flower auction markets in Holland.

The first auction of vegetables dates back to 1887 when vegetable growers at Broek op Langedijk started it "as a form of self-protection against the powerful wholesalers who could pit the small independent growers against each other".[31] This practice was pursued by other growers including "those around Aalsmeer and the Westlands".[32] These auction markets constitute a "cooperative structure" and they turned out to be ideal fora "for not only price-setting, but also as a forum for an exchange of information regarding market tendencies".[33]

> The auction "serves as a type of growers' co-operative. . . . More than 90 percent of Dutch production, as well as many imports, is sold through the auction system. Today about 15 percent of flowers at the Dutch auctions consist of imports….[34] Electronic auction sales are becoming increasingly important. Regardless of the form the auction sales take, the auction system is where prices are determined and where the distribution of flowers to both domestic and export markets is organized.[35]

The auctions function as cooperatives in which the growers are owners. There has been a steady decline in the number of auctions owing to concentration of activities.[36] The largest auctions are Aalsmeer, Holland and Flora. These auctions have sections and it is at the section level that meetings are conducted. Aalsmeer shares 45 per cent of the trade and it concentrates on flowers with an international perspective; it "has a total membership of 4,500 growers, with a wide regional coverage." Aalsmeer is again organized in 13 sections for the Dutch members, two sections for its German and Belgian members, and one section to growers from other foreign countries. Elshof states that "[f]or the services provided, the Dutch members contribute 4.5 per cent of their turnover, while overseas sellers additionally pay a premium of 1-3 per cent, depending on the frequency, stability and quality of their products".[37]

The auctions are meant to "serve the interests of growers vis-à-vis buyers" as a, "transparent price-forming institution between buyers and sellers". Owing to the perishability of flowers, it is nearly impossible for growers to withhold the product and this has brought about "the daily supremacy of the auction." As more countries became cut flower exporters, "the Board of the Aalsmeer auction allowed imported flowers to enter the auction" in 1972 and "the share of imported flowers had reached 10 per cent" by 1995. [38]

In due course, the auction started offering "marketing support [not only] for its own members, but also for third parties".[39] This has transformed the nature of the flower auction market as it departed from its sole function as a cooperative marketing forum of growers and adopted dual functions for owner-members and foreign growers. A forum which emerged as a scheme of the 'self-protection' of growers 'against the powerful wholesalers' is transformed into a vertical wholesale strand in the global value chain regarding the product of foreign flower growers. In spite of the volatility of prices at the auction markets, cut flower growers of developing countries are usually in dire need of these auctions owing to the perishability of their products and inadequate access to direct sale for retailers.

There was resistance from Dutch growers, "in particular in 1992", against the 'incursion' of foreign flowers into Dutch auctions, but it was eventually realized that the quota that operated in 1994 and 1995 contributed to the slowdown in the world flower market, and even more so, the restriction was suspended because developing countries started to establish direct links to their customers thereby depriving "the auctions of new trade and of information on new developments in the market".[40]

> Growers facing competition from newcomers wish to protect their markets, but they cannot easily influence production elsewhere, since new channels of trade can always be developed. The auctions see the opening of these new trade channels as a threat and to maintain their pre-eminent role in the price-forming process have to ensure the largest flow of products through their jurisdiction. That role remains paramount: flowers traded directly from a country like Colombia (to say Tokyo) are still sold in reference to the day's prices at Aalsmeer". [41]

The dilemma that the Dutch flower industry encountered in the early 1990s involved a choice between the benefits that could be obtained by protecting its local growers from the imports of

cut flowers (particularly from developing counties) vis-à-vis the cost of forfeiting its gains from the marketing tier of the global value chain through the auctions and in the course of re-exporting imported cut flowers. The Dutch flower industry has opted not to lose its benefits from open auction markets.

5.2. The Supply, Production and Marketing Harmony in the Dutch Flower Chains

5.2.1. Profile of the Dutch flower industry

In 2000, the Dutch flower market "accounted for 58 percent of the international cut flower market and 85 percent of the market in the European Union".[42] This can be attributed to "high productivity, efficiency, and innovation" in spite of its less favourable position in terms of "more expensive raw materials and labor costs and a less favourable climate for most of the year relative to developing country producers".[43] These are among the factors that made it possible for Holland to use "capital intensive technical applications, high quality propagation material, and a highly trained workforce".[44]

The Dutch flower export continued to increase in both value and volume until 2007 and reached a total export value of US$ 3.8 billion. In 2008, there was an increase in the value of export (i.e. nearly US$ 4 billion) but this was accompanied by a significant decrease in the volume of export in 2008 (which was nearly 25% less than the volume of export in 2007).[45] In 2009, the flower export of the Netherlands showed a slight decline in value (USD 3.46 billion), and the 20% decline of volume during the year was of a higher percentage as compared with the 10% decrease in total trade value. This shows that the Netherlands is shifting towards diversification and focus on higher quality flowers which have a lower volume than production for mass flower markets.

The Dutch flower industry is revisiting its roles and strategies in all the domains i.e. breeding, growing, auctions, wholesale, and retail.[46] The particular notable change that occurred since the early l990s was the "change from a production-driven to a market-oriented industry, with a deliberate segmentation and specialization" in effect making it possible for the

Dutch flower industry to avoid "being squeezed by ever lower sales margins of mass production and rising costs".[47] Even though the "cultivation of flowers and plants accounts for only about 4 percent of horticultural land use in the Netherlands," it "generates about one-half of its production value".[48]

In effect, the Netherlands has maintained "the largest market share of 70 - 75% in the industry" even though its export declined to 3.9% per cent in 2008.[49] This has been possible because it has supplemented its traditional role in flower production by playing a key role in the upper strands of the global value chain in floriculture, i.e. distribution and marketing, in addition to which it is in the course of putting in place new strategies in production including the enhancement of other spheres of horticulture.

One of the lessons that can be learnt from the Dutch flower industry is the extent to which the environmental compliance standards in the Netherlands have enabled the flower farms to retain their ecosystem sustainability and be used for other avenues of horticulture whenever necessary. A case in point is the production diversification strategy that has accompanied the current decline in the production of Dutch cut flowers. In 2010, potato export was the first among the top gainers in Holland's international trade while cut flowers were among the ten losers during the same year.

> Tomatoes are the most commonly grown type of vegetables and pot plants the most commonly grown flowers in greenhouses. Cultivation of vegetables in greenhouses has steadily increased in recent years, whereas flower cultivation under glass declined. The entire horticultural sector was scaled up. Greenhouses covered more than 10 thousand hectares (ha) in 2010, i.e. an area equal to the municipality of Utrecht.[50]

In 2010 there was reduction of production and exports in Dutch cut flowers such as roses and chrysanthemums and there were more orchids and pot plants. Since 2000, the cultivation area for flowers "was reduced by 19 percent" and it was "4.8 thousand ha in 2010".[51] During the same period the area of pot plants "has increased by nearly 10 percent". The decline of flower cultivation "is mainly due to cut flowers, like roses and chrysanthemums, whereas more orchids were grown in greenhouses".[52]

The decline in the area of cut flower cultivation is not analogous to what is known as the 'tulip bubble'[53] which represents a period in European history during which the Dutch craze for

tulips (flowers which originated from Turkey during the Ottoman Empire) was so severe that the adverse impact of speculation led to problems including the loss of big fortunes such as homes. In spite of the decline in cut-flower production, Dutch import of cut flowers for re-export, the Dutch auctions, export in supplies and floriculture investments abroad in countries such as Kenya and Ethiopia compensate for the decline in local production.

5.2.2. Dutch Flower growers and the supply network

Early urbanization in certain regions of Holland, the scarcity of land in these areas and the nearby markets[54] are believed to have been the factors that led to the emergence and development of horticulture in the Netherlands. Eventually, one of the regions "near Rotterdam and The Hague (Westland and Rijnsburg)" switched to flower-growing "because of the high returns, the limited possibility to expand their growing area, and the availability of nearby markets".[55] Dutch flowers "benefit from fertile soils and a cool and temperate climate, as well as an abundant supply of natural gas to heat their greenhouses.[56] Elshof states the factors that were favourable to the growth of floriculture in Holland.

> [The] flower-growing region's location favoured its growth, particularly in terms of soil and water. The ground is flat, facilitating the construction of glasshouses and mechanization, and it is traversed by small canals, facilitating low-cost internal transport. Flat-bottomed boats can transport inputs, fertilizers and finished products over short distances to collection points where other crafts can be used to reach the auctions. The two most important areas (the regions around the Aalsmeer auction and the Holland auction at Naaldwijk) both have a temperate climate because of their proximity to the North Sea. Glasshouses do not have to be adapted to fluctuations and extremes in temperatures. [57]

The growth in Dutch floriculture was accompanied by a network of suppliers that emerged and developed around the farms. In the course of time, these suppliers became "sufficiently specialized and sophisticated to enter the international arena".[58] This network includes all strands of the production chain, i.e., "breeders and propagators, seed companies, construction companies specializing in glasshouses, and companies specializing in the installation of utilities for glasshouses".[59] Eventually, the advent of information technology has enabled all these tiers of activities to benefit from the services of "computer software companies who develop tailor-

made systems to regulate the micro-climate –humidity, air and light– inside the glasshouses".[60] Equally significant is the role played by "banks, accountancy and administration firms, and insurance companies" in serving the flower industry.[61] The flower industry is thus integrated with various sectors that facilitate its activities and development.

The education system and knowledge-base in Holland plays a significant positive role in the performance and effectiveness of all the strands that are relevant to the flower sector: i.e. the growers, suppliers, and all tiers of service providers. "From the primary school, a well elaborated hierarchy started to develop, making the sector a highly developed infrastructure of education, knowledge, innovation, agronomy, information, and marketing services".[62] This explains the knowledge base, productivity, innovation and technoscientific foundation of the Dutch flower industry.

5.3. The Global Value Chain in Floriculture

5.3.1. Phases of the floral value chain

Flower production involves large capital. The elements include land, various farm premises, greenhouse construction, cold storage, refrigerated truck, and other capital investments such as drip irrigation layout, water pumps, spray unit, waste disposal system, a fertigation system (which eliminates uneven applications or drip irrigation, run-off, etc.) and other capital inputs. After such capital investment, flowers produced for market involve a chain of interrelated value-adding activities which can be referred to as the value chain. The chain includes inputs and resources, production, packing, preservation, transportation and marketing.

The *initial* chain after capital investment is the *supply chain* which requires various inputs (seed, water, energy, fertilizers, chemicals, packing materials and others). It refers to the supply of inputs that are necessary for the *second* phase in the value chain, i.e., *flower growing and harvesting*. The *third* post-harvesting phase involves all activities towards getting "the flowers ready for export".[63] This phase comes immediately after harvest and it involves the sorting, cleaning, trimming and grading of cut flowers. The flowers are then inspected so that they meet required standards. During this phase, "packing is done to ensure that the flowers are well protected for freighting and ready for the shelves in the supermarkets".[64]

The *fourth* phase is the transportation of the flowers to the airport followed by air transport. This chain involves land transport by refrigerated trucks and temperature-controlled air transport to the export destination. Thereafter the marketing and distribution chain enables the flowers to reach their consumers.[65]

The parties involved in the marketing and distribution chain (in auction markets) are wholesale and retail florists. Wholesale florists purchase the cut flowers and resell them to retailers and ultimately the retail shops provide the flowers to the ultimate consumer. At this stage, the major (value-added) contribution by wholesalers and retailers include preservation, handling and design. These roles merge in direct markets where supermarkets directly buy the flowers from growers.

5.3.2. Buyer-driven commodity chain: An overview

Catherine Ziegler describes the factors that influenced the floral value chain in New York, and her analysis reflects analogous developments in other parts of the world. She states three distinctive periods and states the factors that brought about changes in the commodity chains:

> In the earliest period (1870- 1920) the needs and desires of New York "society" and upper-middle-class consumers dominated the types of flowers produced and when and how they were grown. Between 1920 and 1970, growers' interests ultimately structured what was produced for and consumed by a growing middle class. In the third period (1970-2005), middlemen came to orchestrate an expanding system that linked globally dispersed growers to U.S. flower consumers.[66]

Since the 1970s, the flower marketing strand has taken the lead in the value chain because it links flower growers with consumers. Such transnational linkages inevitably involve *global commodity chains* (GCC) characterized by the interdependence of inputs, processes, products, exports, markets and consumption.

Gereffi makes a distinction between buyer-driven and producer-driven commodity chains,[67] and shows that in buyer-driven commodity chains, "large retailers or brand-name companies make the key decisions about the nature of activities and actors in the chain without actually owning any manufacturing facilities." As Paliwala notes, "local, national, regional and global institutions, policies and factors influence each stage in the chain".[68] In particular, the

determination of prices in buyer-driven chains is "exercised by retailers and marketers at the distribution and retail end of the chain.[69] On the other hand, in produce-driven commodity chains, the producer is at the wheels of the production and the marketing process, and products can be distributed at a pace and momentum usually agreeable to producers. Under such circumstances, "producers play the central role in coordinating production networks".[70]

Bolwig *et al* (2008) emphasize that the term '*chain*' focuses "on 'vertical' relationships between buyers and suppliers and the movement of a good or service from producer to consumer" and this "entails an analysis centred on *flows* of material resources, finance, knowledge and information between buyers and suppliers". They suggest a corresponding attention to the dimension which has been accorded lesser focus in the analysis, i.e, the "processes of coordination and competition among actors operating in the same function or segment of a particular market".[71] It is also suggested that the theoretical framework of the global value chain ought to have considered other (non-buyer or non-producer) drivers in the chain "such as governments or NGOs who potentially may influence particular parts of the chain".[72]

5.3.3. Governance structure of production for global markets

Production for global markets inevitably influences the governance structure of production and trade. Gereffi *et al* (2005) have formulated a theoretical framework that explains "the shifting of governance structures in sectors producing for global markets"[73] which can be referred to as 'global value chains'. While the notion of commodity chain perceives this linkage as producer-driven and buyer driven, the global value chain attempts to analyze the variety of network forms that are observed in relation with the evolution of global-scale production and marketing structures and further examines "how and why countries advance – or fail to advance – in the global economy".[74]

As Gereffi *et al* note, value-added chain is 'the process by which technology is combined with material and labor inputs, and then processed inputs are assembled, marketed, and distributed".[75] They indicate five types of global value chain governance in global value chains. They are: market-based, modular, relational, captive and hierarchical value chains.[76]

Market-based value chains take the form of spot markets with transitory relationships between the supplier and the buyer, while repeated transactions "can persist over time" in spite of which "the costs of switching to new partners are low for both parties".[77] In *modular value chains* the suppliers "make products to a customer's specifications, which may be more or less detailed." *Relational value chains* involve "complex interactions between buyers and sellers, which often creates mutual dependence" and it "may be managed through reputation" or various family and social ties that bring about trust. *Captive value chains* render "small suppliers transactionally dependent on much larger buyers, and the suppliers remain 'captive' to the lead firms who have "a high degree of monitoring and control" owing to the significant cost that suppliers incur if they wish to switch to new business partners. The *hierarchical value chain* (such as in-house manufacturing) "is characterized by vertical integration" in which there is usually "managerial control flowing from managers to subordinates or from headquarters to subsidiaries and affiliates".[78]

Gereffi *et al* outline the change in the nature of Kenya's vegetable exports to the United Kingdom (a setting analogous to the flower sector) which shifted from "market-based global value chain governance to more explicit coordination".[79] This occurred as a result of the pursuit of supermarkets to avoid buying the farm products from wholesalers and establishing direct relations with African exporters or UK importers which gradually led to "renewable annual contracts with suppliers whose capabilities and systems were subject to regular monitoring and audit."

> In order to attract customers, the supermarkets introduced new items, emphasized quality, provided consistent year-round supply …. At the same time, the supermarkets were forced to respond to an increasingly complex regulatory environment related to food safety, particularly pesticide residues and conditions for post-harvest processing, as well as environmental and labor standards.[80]

Prior to the incorporation of a supplier in the chain, supermarkets inspected the suppliers and "made regular spot checks at all points in the chain, right down to the field" as a result of which their interaction "became more complex and relational." This relationship inevitably led to working together "on product development, logistics, quality, and the like", which eventually "took new forms, with the recent trend moving value chain governance in the direction of

modularity".[81] The predominance of the modular type of value chain governance in a given chain, does not, however, entirely exclude some of the elements in the other modes, because, despite the pervasive nature of one of the modes, certain elements of the other modes can co-exist in the governance of a given value chain.

5.3.4. The two marketing strands in the global value chain

There is an increasing trend towards the direct sale of flowers to retailers in foreign markets. But, "auctions remain the most significant way that cut flowers from sub-Saharan Africa reach European wholesalers and retailers".[82] Both markets are dominated by buyers, and flower growers inevitably face the challenges in the competitive markets. Success in such markets depends upon "higher capability at the supply base to ensure a consistent, diversified and quality product that complies with regulatory requirements".[83] It requires not only varieties, consistency and quality, but also timing which is "related with exclusion of storage risks and costs" so that products can be "delivered at the right time to the right location".[84]

Riisgaard and Hammer (as indicated in the figure below) analyze the two market stands of the cut flower market in Europe, i.e. the *direct strand* in which supermarkets directly buy from suppliers and exporters and the traditional *auction strand*. The direct market strand involves: (a) the flower grower/s, (b) the flower exporter, (c) the importer in the country of export destination, and (c) the retailer.

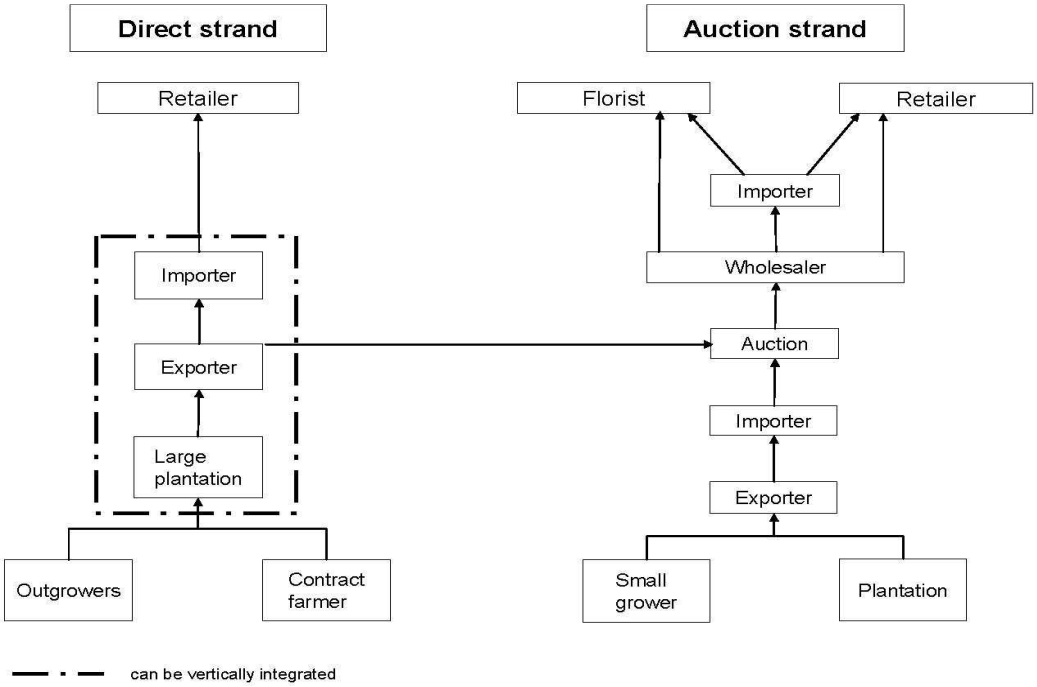
The segments in the value chain of the *direct strand* are fewer. The chain can be even shorter where there is vertical integration between flower grower(s) and exporters. In the case of multinational corporations, the integration can include flower grower(s), exporters and importers. In the *auction strand*, however, the value chain includes flower growers, exporters, importers, the auction markets, wholesalers and retailers (or florists). Wholesalers may also sell the flowers to importers in a country outside the auction market which can, in effect, lengthen the chain.

Large retailers are increasingly resorting to direct sourcing and this has "a significant impact on governance (due to their considerable market power) as well as an increasing demand for compliance with social and environmental standards".[85]

> The direct strand for flowers is controlled by supermarket buyers … retailers, and is strongly buyer-driven. The auction system, in contrast, is less strictly coordinated and

less driven. The auction strand is characterised by relatively loose trading relationships because of a more market-based type of coordination, particularly at the auction point, which makes explicit governance along the whole chain more difficult to achieve.[86]

Figure 1: Auction strand and direct markets



Source: Lone Riisgaard and Nikolaus Hammer (2008) "Organised Labour and the Social Regulation of Global Value Chains", *DIIS Working Paper no 2008/9*, p. 28

The traditional markets (i.e. auctions) are conducive to flower growers who specialize in a given type of cut flower and who as a result benefit from the economy of scale.[87] In contrast, supermarkets (direct sales) offer better prices but require varieties of cut flowers and also "require consistency in volume, quality and timing of supply".[88] In spite of the buyer-driven nature of the value chain in auction and direct markets, flower growers or other producers of agricultural products in developing economies have no other option but to be part of the value chain. Or else, "entry to dominant globalised trading systems becomes difficult" and the compliance of the weaker party is "enforced through contractual linkages along the various components of the chain from the main retailer, for example the supermarket, to the farmer".[89] Another feature of the global value chain is the "intense competition between each link in the chain with the other to obtain competitive advantage".[90]

The global value chain thus poses two challenges to the Ethiopian flower sector. On the one hand, there is the challenge in the availability and cost of foreign inputs in the supply chain, and on the other hand there are challenges in the marketing tier of the value chain which is largely buyer-driven.

5.4. Product Standards in the flower global chain

Standards in agricultural value chains facilitate "governance across space and the coordination between firms by transmitting credible information on the nature of products and the conditions under which they are produced, processed and transported".[91] The transmissions of information on the product and its process (and the various efforts towards devising, implementing and monitoring tiers of standards, certification and labels) have two major functions, namely: *management of risk* and *product differentiation*.

5.4.1. Risk management standards and product differentiation standards

We can distinguish between two functions of standards, namely "risk management and product differentiation".[92] Risk management refers to the safety standards that are required to be met to avoid risk to human, animal and plant life. While risk management standards are mandatory thresholds that are required to be met for entry into a certain market, product differentiation standards represent a quality-based competition in the realm of unregulated attributes of production and process which enables "firms to supply blends of product and process attributes, and to communicate these to consumers, that set them apart from their competitors".[93]

However, the "spectrum of attributes governed by risk management and product differentiation standards" is not static because "there is an upwards trend in the level of the minimum level as consumer expectations and/or regulatory requirements are enhanced".[94] This can be illustrated by "GlobalGAP, initially a risk management standard, which is moving beyond food safety attributes to include environmental protection and worker rights.[95]

Both functions of standards (i.e. the management of risk and product differentiation) are related with the quality of products and the process of their production, transportation and distribution. This represents change in "consumption patterns in northern countries" which has

enhanced the "importance of branding and product differentiation" and has brought about shift of focus "from price-based competition toward quality, innovation and value-added as key performance criteria for suppliers".[96] This marks a shift from quantities "to an economy of qualities" and increased importance of standards focusing on sustainability issues.[97] In the context of cut flowers, this includes "the emergence and proliferation of standards that seek to regulate the social and environmental conditions of production".[98]

5.4.2. Public regulation of standards and private standards

Henson and Humphrey argue against the bipartite classification of standards, solely into voluntary (private) and mandatory (public). They note that private standards may be voluntary or be accompanied by legal sanctions. They also state that there can be voluntary standards that are issued by regulatory authorities. Moreover they indicate key dimensions[99] of standards depending upon their sources, function, approaches and location.

Regulations are public mandatory standards enforced by the government. They may involve "technical requirements, testing, certification and labeling procedures on imported goods." Such standards usually focus on agricultural and food products and other consumer merchandise. At present, they are "often overshadowed by even stricter, multiple, and often-changing requirements set by multinational corporations or industry associations".[100] Governments may also "promote standards that are voluntary"[101] to be optionally practiced in the food industry.

> "[P]rivate standards are … standards that are *set* (created) by commercial or non-commercial private entities, including firms, industry organisations, nongovernmental organisations, etc. … Private standards can be adopted by non-state (private) actors; even if they become *de facto* mandatory in a commercial sense through adoption by dominant market actors, there is no legal penalty from non-compliance. However, private standards may be adopted by state actors and invested with statutory power. In this case, compliance is mandatory, and we refer to these legally mandated private standards. This process is seen, for example, with the referencing of ISO 9000 in EU directives covering CE marking for telecommunications and electronic products".[102]

The following figure[103] summarizes the distinction "between mandatory and voluntary standards and between standards set by public and private entities."

Figure 2: Forms of standards

	Public	**Private**
Mandatory	Regulations	Legally-mandated private standards
Voluntary	Public voluntary standards	Voluntary private standards

Source: Henson & Humphrey

According to Henson and Humphrey, private standards "reduce information costs for buyers" in addition to which they bring "transaction costs under control" and "redistribute [information] costs along supply chains".[104] In their conclusion, they point out the potential implications of private standards "as systems of governance in global agri-food systems" vis-a-vis "the role of established (predominantly public) institutions, such as the WTO".[105] Moreover, they indicate the parallel (but interconnected) "governance processes in the realm of public regulation and private standards, nationally and internationally" and state the "efforts towards standards harmonisation and equivalence"[106] as examples.

Havinga considers the role of private standards and the regulatory role of supermarkets as pioneering and she considers the self-regulation in the industry and the government's regulation insufficient.[107] She argues that retailers "can force food industry organizations and producers to accept food safety standards because of their economic (market) power".[108] She pursues "Black's decentred conception of regulation[109] and considers it as "an intentional and problem-solving process that extends beyond state activity".[110] To this end, she notes that regulation "consists of rulemaking (standard setting), monitoring compliance, and enforcement".[111]

5.4.3- International standards

a) Sanitary and Phytosanitary (SPS) Inspection and Certification

Article XX(b) of the General Agreement on Tariffs and Trade (GATT) allows countries under the WTO trade regime to depart from their commitments under GATT where it becomes "necessary to protect human, animal or plant life or health'. This is allowed only where SPS measures are not used as a pretext for arbitrary and discriminatory non-tariff barriers (NTB) that are motivated by *protectionism* rather than the sanitary and phytosanitary safety of people, animals and plants in the importing country.

As indicated in Chapter 3 (§ 3.1.5), the SPS agreement under the WTO system embodies safety standards for imported food and agricultural products. There is concern from developing countries about the level of SPS standards. But such criticism seems to have negligible or no impact on *private standards* that are set by supermarkets. The following illustrates the problems encountered in cut flower exports as a result of rigorous SPS checks:

> Indian floricultural products were subjected to 50% checks at entry points in the Netherlands. This, despite the fact that most farms involved in floriculture exports from India had stringent pest control management systems in place, which adhered to international standards. Most of them had also adopted Good Agricultural Practices (GAPs). The 50% check was a time-consuming process and resulted in unwanted delays in clearances, processing, and delivery of the consignments to the end-clients. …[112]

Delays at airports of destination cause loss of flower quality due to the short shelf life of flowers[113] "India had proposed that the EU should reduce checks on Indian floriculture consignments to a reasonable level of say, 3-5% so as to avoid unnecessary delays leading to heavy losses in the ornamental quality of flowers".[114] In order to avoid such inconvenience at the point of export destination, phytosanitary certificates are issued by an agency of a national government and the certificate indicates that an export shipment has been inspected and is free from harmful pests and plant diseases.[115] Although such certificates make it easier for the cargo, they do not guarantee absolute waiver of inspections at the points of destination.

b) The International Code of Conduct for the Production of Cut Flowers (ICC)

The International Code of Conduct for the Production of Cut Flowers (ICC)[116] was formulated in August 1998. It sets forth minimum labour, human rights and environmental standards. Article 5 deals with health and safety of workers (as envisaged under ILO Convention). The provision entitles workers to "be consulted, trained and allowed to investigate safety issues" and requires "regular monitoring of workers' health and safety." Article 8 requires companies to "make every effort to protect the environment and the residential areas, avoid pollution and implement sustainable use of natural resources (water, soil, air, etc.)."

Article 6 makes particular reference to pesticides and chemicals. It requires companies to "assess the risks of the chemicals used and apply measures to prevent any damage to the health

of their workers". Article 6 further provides the following:

> Companies shall record and reduce pesticide and fertilizer use by adequate techniques and methods. No banned, highly toxic (WHO I) or carcinogenic pesticide and chemical should be used. Safety instructions and reentry intervals must be strictly observed and monitored. Spraying, handling and storing pesticides and chemicals should be done by specially trained people with suitable equipment. Stores, apparatus and equipment must be clean, safe, handy and conforming to international standards.

c) Milieu Programma Sierteelt (MPS; Floriculture Environmental Project)

Milieu Programma Sierteelt or Milieu Project Sierteelt (which in English means Floriculture Environmental Project) "was established by the Dutch floricultural sector with support from the flower auction houses and several flower trading organizations" and it "offers certification services for several schemes".[117] One of the schemes is the MPS-ABC which certifies four levels of environmental standards: MPS- A, B and C based on the reduced use of fertilizers, energy and waste.[118] The MPS –ABC certification level represents "an environmental score card that shows the performance of the company with regard to reduction of the use of fertilizers, energy and waste".[119]

Ethiopian cut flower exporters are required to satisfy MPS certification rules if they aspire towards access in direct Dutch markets while this is desirable but not compulsory in auction markets.[120] The qualification of MPS-A represents "most environmentally-friendly cultivation, while the qualification participant (D) is awarded when a participant has registered for three successive periods or has registered for 13 periods and scored less than 10 points on the four themes".[121]

> An MPS-ABC participant uses the collective form to record the usage data relating to crop protection agents, fertilisers, energy and waste separation) for its entire business every four weeks. The form for the period in question is sent to MPS either over the internet using the submission program, or by post or fax, to be processed. The participant receives points for each environmental theme, based on a comparison between the agents used and the norm for the business. The number of points determines the qualification for the whole business. These qualifications (A, B, C or Participant (D)) are allocated four times per year. [122]

According to the Project's expectations, the advantages of registration and participation in MPS-ABC include the ability to satisfy market demand, increase in sales market, being entitled to receive an MPS report and to be displayed on the auction clock, entitlement to use the logo emblem, inclusion in the MPS database accessible to all purchasers, enhanced goodwill as a responsible and sustainable business, and compliance with all the legislation.[123]

d) GLOBAL G.A.P, FLP and FFP

EUREP-GAP (Euro-retailers-producer working group, Good Agricultural Practices) which is currently renamed GLOBAL G.A.P (due to its activities beyond Europe), is "a private sector body that sets voluntary standards for the certification of agricultural products around the world." Its major function is to establish "certification standards and procedures for Good Agricultural Practices (GAP), that is, pre-farm-gate-standards covering the process of the certified product from before the seed is planted until it leaves the farm".[124] The sectors covered are flower and houseplant production (ornamentals), agricultural plant production, livestock and combinable crops, fish breeding and coffee shrub production (green coffee). [125] Good Agricultural Practices include the following:

- Following up.
- Documentation and internal review.
- Varieties and stocks for plantation.
- Website update and management.
- Soil management.
- Fertilizer application.
- Irrigation.
- Crop protection.
- Harvesting.
- Post-harvest treatment.
- Lose and pollution management and reuse.
- Workers health and safety.
- Environmental issues. [126]

One of the standardization schemes is the Flower Label Programme (FLP). It aims at improving "labor, social, health and safety standards for farm workers; improve the use of chemicals and pesticides used on the flowers; and to follow stringent standards to protect the environment".[127]

A new development in the avenue of standards is the *Fair Flowers Fair Plants* (FFP)[128] label which is established as an initiative to encourage "trading flowers and plants that have been produced in a way that respects people and the environment." The farms "that produce FFP flowers and plants satisfy high requirements in the fields of the environment and of social aspects." The requirements include the traceability of "the origin and cultivation methods" and

"FFP products are sold through affiliated FFP traders and retailers." It facilitates "links within the chain (grower, trader and retailer)" which are not only required to satisfy the requirements of FFP but are also "monitored to make sure they continue to do so".[129] There is, however concern that FFB can likely push the bar of standards higher to the advantage of flower growers in Europe. This seems to have not only a positive impact in monitoring social and environmental standards, but also the danger of rendering the terms of competition difficult for flowers from developing countries.

> For developed country producers, the new label FFP offers an opportunity to enter the market for flowers differentiated by social certification. This market segment was formerly restricted to developing country producers whom, if certified, could gain a competitive advantage vis à vis developed country producers and vis à vis non certified developing country producers. The entrance of FFP thus effectively alters the terms of competition in the market segment for sustainability labeled flowers where developing countries now have to compete with developed country producers.[130]

In addition to the standards highlighted above, there are national standards that flower growers ought to fulfil. These standards operate in concert with the international standards and both have similar objectives as can be observed from the experience in Latin American countries (Section 6.4) and Ethiopia's national standards stated in Sections 4.4.3 and 7.6.

In light of the discussion in this chapter, the global value chain in floriculture controls the import supply and the marketing strands of the value chain. It also requires standards of compliance in addition to which it determines price because the chain is buyer-driven. Ethiopia's flower sector can benefit from the experience of developing countries that have joined the flower export global market before Ethiopia. The next chapter briefly discusses the comparative experience in three leading flower exporting countries from the Global South with particular attention to the lessons that can be drawn from the economic benefits in the flower sector and the challenges in balancing these benefits with social and environmental compliance.

* * *

Notes

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[44] Peter J. Batt (2000), "Strategic Lessons to Emerge from an Analysis of Selected Flower Export Nations," *Journal of International Food and Agribusiness Marketing*, Vol. 11, No. 3,. [in *USITC Publication* 3580, *supra* note 1].

[45] Based on data from United Nations Commodity Trade Statistics Database | Statistics Division

[46] *Ibid*, Introduction, paragraph 4.

[47] *Ibid*.

[48] Dutch Product Board for Horticulture, "Dutch Horticulture in Facts and Figures, 2000" [in *USITC Publication* 3580, *supra* note 1, p. 30].

[49] Abu Kargbo, Jing Mao and Cai-yun Wang (2010), "The progress and issues in the Dutch, Chinese and Kenyan floriculture industries", *African Journal of Biotechnology* Vol. 9(44), November 2010, p. 7401.

[50] United Nations Statistics : Netherlands (Central Bureau for Statistics); Available at: <http://www.cbs.nl/en-GB/menu/themas/landbouw/publicaties/artikelen/archief/2011/2011-3363-wm.htm> (Last visited: 25 May 2011).

[51] *Ibid*.

[52] *Ibid*.

[53] "What started as an obsession with the humble tulip, imported from Turkey in the 16th century, saw the Netherlands blossom into a world leader in flower cultivation and trade. The Dutch tulip mania of the early 1600s is often said to have been the world's first recorded speculative economic bubble. Four-hundred years after the devastating burst of the tulip bubble - at the height of which single bulbs were worth several times people's annual incomes and were being traded for land, livestock and houses - Dutch flower exports now fetch billions of euros a year". Source: AFP, Only in Holland, "Dutch flower exports wild amid world economic downturn", Thursday 23 October 2008: <http://www.onlyinholland.com/PIVOTX/?e=276> (Accessed: 25 May 2011).

[54] Elshof, *supra* note 4, Section 1, paragraph 1.

[55] *Ibid*.

[56] Peter J. Batt (2000), "Strategic Lessons to Emerge from an Analysis of Selected Flower Export Nations," *Journal of International Food and Agribusiness Marketing*, Vol. 11, Nov. 3, 2000 [in Industry & Trade Summary: Cut Flowers, OFFICE OF INDUSTRIES, U.S. International Trade Commission (USITC Publication 3580 February 2003), p. 30]

[57] Elshof, *supra* note 4, Section 1, paragraph 5

[58] *Ibid*, Section 1, paragraph 6.

[59] *Ibid*.

[60] *Ibid*.

[61] *Ibid*.

[62] *Ibid*.

[63] Peter Maangi Mitiambo, Value Chain Analysis for the Flower Value Chain in Kenya & Tanzania, <http://www.roundtableafrica.net/getattachment/Value-Chain-Research/Value-Chain-research/Value-Chain-research/Peter-Maangi-Mitiambo-Value-Chain-Analysis-for-the-Flower-Industry-in-Kenya---Tanzaniax.pdf.aspx>, Last accessed: 10 June 2012.

[64] *Ibid*.

[65] The following sketch summarizes the value chain in the flower industry:

a) Capital investment
b) Inputs
   - seedlings
   - fertilizers
   - chemicals
   - packaging materials
c) Flower growing (large scale grower and small scale grower)
   - land preparation, planting, pruning, harvesting.
d) Post-harvest tasks
   - sorting, cleaning, grading
   - inspection whether the flowers meet the required standards
   - packing for freight and for the shelves of supermarkets.
e) Transport to market
   - Ensure arrival within four hours of aircraft departure
   - Post-harvest cold supply chain infrastructure including refrigerated trucks: transportation in refrigerated trucks to keep flowers in low temperature (2-4 degree celcius)
   - Specialized air freight forwarders preferably linked to flower producers
   - Customs clearance, inspection
   - Cargo handling by booking for clearance a week earlier
f) Marketing and Distribution
   - Possible inspection by customs and health officials in the country of export destination
   - Channels of distribution: auction floor, wholesalers, supermarkets, florist shops.

[A sketch developed mainly from: P. M. Mitiambo (2008) Floriculture Value Chain: The Case of Kenya (ESAMI), Abridged from Power Point document].

[66] Ziegler, *supra* note 18, p. 15.

[67] Gereffi, G. (1994), 'The organization of buyer-driven global commodity chains: how U.S. retailers shape overseas production networks', in Gereffi, G. and M. Korzeniewicz (eds.) (1994) *Commodity Chains and Global Capitalism*, Westport, CT: Praeger.

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[70] Anne Tolantire et al (2005), "Reaching the Marginalized: Gender Value Chains and Ethical Trade in African Horticulture" in *Development in Practice*, Vol. 15, No. ¾, (June 2005) p. 560.

[71] Simon Bolwig *et al* (2008), "Integrating Poverty, Gender and Environmental Concerns into Value Chain Analysis: A Conceptual Framework and Lessons for Action Research"**,** *DIIS Working Paper no 2008/16*, page 9.

[72] Alex Hughes & Suzanne Reimer (2004), eds., *Geographies of Commodity Chains*, (London and New York: Routledge), p. 196.

[73] Gereffi, G. *et al* (2005), "The governance of global value chains", *Review of International Political Economy* 12:1, February 2005, page 79.

[74] *Ibid.*

[75] *Ibid.*

[76] *Ibid*, pp. 83, 84.

[77] *Ibid*, p. 83.

[78] *Ibid*, p. 84 for all quotes after the preceding footnote.

[79] *Ibid*, pp. 92, 93.

> "Beginning in the mid-1980s UK supermarkets began to use the quality and variety of their produce offerings as a main source of competitive differentiation, and in doing so generated several distinct forms of governance at different stages in the chain.
>
> Until the mid-1980s, the fresh vegetables trade was handled through a series of arm's-length market relationships. Traders in Kenya bought produce in wholesale markets or at the farm gate and exported it to the United Kingdom, where it was sold in wholesale markets. However, as supermarket chains in the United Kingdom gradually took an increasing share of fresh food sales and therefore became more powerful actors, they began to introduce more explicit coordination in the chain." [p. 93].

[80] *Ibid* p. 93.

[81] *Ibid*.

[82] Bolwig *et al*, *supra* note 71.

[83] Mulu Gebreeyesus & Tetushi Senobe (2009), Governance of Global Value Chain and Firms' Capability in African Horticulture.

< http://www.merit.unu.edu/MEIDE/papers/2009/1235983352_MG.pdf> Retrieved: 21 Feb. 2010.

[84] *Ibid.*

[85] *Ibid*.

[86] *Ibid*, p. 28.

[87] Wijnands, J.H.M. (2005), Sustainable International Networks in the Flower Industry: Bridging Empirical findings and Theoretical Approaches. ISHS, Leuven.

[88] Mulu & Senobe *supra* note 83, page 7

[89] Paliwala, *supra* note 68.

[90] *Ibid*.

[91] Lone Riisgaard (2009), "How the market for standards shapes competition in the market for goods: Sustainability standards in the cut flower industry", *DIIS Working Paper* 2009:07. (Danish Institute for International Studies, Copenhagen, Denmark), p. 6.

[92] Spencer Henson & John Humphrey (2008), "Understanding the Complexities of Private Standards in Global AgriFood Chains." In Conference paper presented at the International Workshop on Globalization, Global Governance and Private Standards Leuven, Belgium 4-5 November 2008, page 1

[93] *Ibid*, p. 12.

> "For example, the Kenya Flower Council standard is designed to assure buyers that Kenya flowers producers are meeting or exceeding current regulations and buyer expectations. In other cases, producer-developed or adopted standards are meant to differentiate the products of one producer as compared to another. Such differentiation can also be done as a pure branding exercise (Danish butter, New Zealand lamb) without reference to standards. The use of standards as the pinnacle for brand development is designed to enhance the credibility of claims about factors such as safety or animal welfare. This means that, as in the Case of Tesco's Nature's Choice, producer-developed standards frequently combine risk management and product differentiation elements." [*Ibid*, p. 14].

[94] *Ibid*, p. 10.

[95] *Ibid*.

[96] Riisgaard, *supra* note 91, p. 4.

[97] *Ibid*, citing Power, 1997.

[98] *Ibid*, p. 5.

[99] Henson and Humphrey observe four key dimensions of diversity in private standards, namely:

> "1) private company standards versus collective private standards;
>
> 2) standards for risk management versus standards for product differentiation;
>
> 3) standards directly linked to brands/symbols that are communicated to consumers ('visible' standards) versus business-to-business standards ('invisible' standards); and
>
> 4) standards that are set nationally versus standards that are set internationally."
>
> [*supra* note 92, p. 17].

[100] Frank Joosten (2007), *Development Strategy for the Export-Oriented Horticulture in Ethiopia*, Wageningen UR, pp. 28, 29.

[101] Henson & Humphrey, *supra* note 92, p. 3.

[102] *Ibid*, page 2.

[103] *Ibid*, page 3.

[104] *Ibid*, p. 17.

[105] *Ibid*, p. 18.

[106] *Ibid*, p. 18.

[107] Tetty Havinga (2006), "Private Regulation of Food Safety by Supermarkets", *Law and Policy*, 28(4), p. 530.

[108] *Ibid*, p. 515.

[109] "[R]egulation is the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a broadly identified outcome, which may

involve mechanisms of standard-setting, information-gathering and behaviour-modification" (Black 2002: 20)." [In Havinga, p. 516].

[110] Havinga, *Ibid*, p. 516.

[111] *Ibid* (citing Picciotto 2002; Scott 2002).

> "In a state-centered conception of regulation these are performed by (different) governmental organizations. The classical model would reserve rulemaking to the legislature, monitoring compliance to an inspectorate, and enforcement to the criminal and administrative justice system. Novel conceptualizations of regulation not only encompass state institutions, but also involve second- and third-party actors, such as firms, associations, and NGOs, acting as rulemakers as well as monitoring or enforcement agencies." [Havinga, *Ibid*].

[112] Kasturi Das (2008) "Coping with SPS Challenges in India: WTO and Beyond", *Journal of International Economic Law*" p. 982.

[113] *Ibid*.

[114] *Ibid*.

[115] <http://www.teachmefinance.com/Financial_Terms/phytosanitary_inspections.html> (Retrieved 2 April, 2010).

[116] <http://www.fairflowers.de/fileadmin/flp.de/Redaktion/Dokumente/ICC_eng_050719.pdf > Retrieved: March 14, 2010.

[117] <http://www.tradestandards.org/en/Topic.8.aspx> Retrieved: 15 September 2009.

[118] *Ibid*.

[119] <http://tradestandards.org/en/Standard.45.aspx> (Retrieved 1 February 2010).

[120] Mulu & Senobe, *supra* note 83, p. 7.

[121] <http://www.my-mps.com/Default.aspx?tabid=194&language=en-US> Retrieved 15 Sept. 2009.

[122] *Ibid*.

[123] *Ibid*.

[124] See: <http://www.globalgap.org/cms/front_content.php?idcat=9> Hazard Analysis and Critical Control Point. IFA standard is divided into three Base Modules and five Sector Modules.

[125] Hajar Bagasa (April 2008) "European System Related to Good Agricultural Practice" (EUREGAP), *Policy Brief* No. 26, pp. 2-5.

[126] *Ibid*.

[127] <http://ecolabelling.org/ecolabel/flower-label-program-flp> Retrieved: 9 April 2010.

[128] <http://www.fairflowersfairplants.com/en/traders.aspx> Last accessed: 2 June 2011.

[129] *Ibid*.

[130] Riisgaard, *supra* note 91, pp. 24, 25.

6

Comparative Experience in Three Major Flower Exporters from the Global South

The cut flower industry has attracted many countries in their pursuit to diversify exports. It is "increasingly regarded as a viable diversification from traditional field crops to increased per unit returns" due to the "increasing 'habit of saying it with flowers' during all the occasions".[1] However, there are social and environmental challenges that are encountered owing to the nature of flower growing, the world flower market, the flower value chain and the thresholds of product standards discussed in the preceding chapter. Various challenges are also encountered with regard to the sustainability of the economic benefits.

This chapter deals with the comparative experience and lessons that can be gained from the benefits obtained and the challenges encountered in two Latin American countries (Colombia and Ecuador) and one African county (Kenya) because they are among the leading flower exporters from the Global South. The challenges include the sustainability of the economic benefits, labour conditions and environmental sustainability. Economic performance, codes of practice and the challenges in labour conditions are given prime attention in the discussion on Colombia and Ecuador, while economic performance, the cost-profit structure, the gendered value chain and the environmental harm to Lake Naivasha are issues of thematic focus in the discussion on Kenya's experience.

6.1. Flower Export Boom in Colombia, Ecuador and Kenya

6.1.1. Colombia: Favourable conditions and export performance

Flower growing was a household activity in Colombia until the mid-1960s even if there were small enterprises that produced flowers for the domestic market.[2] A research thesis by a student who was studying at the University of Colorado in USA is believed to have inspired the initial

take-off towards cut flower production for export. The research "studied the ideal meteorological conditions for the industrial cultivation of carnations;" and during the same year, i.e. 1965, "an advisor in exports promotion from USAID, familiar with the study, came to Colombia and evaluated the feasibility of launching flower-growing in Sabana de Bogotá".[3]

In another account, Ziegler states that, Edgar Wells, a Columbian of British descent, was the visionary who came up with the "idea of growing perishable cut flowers in Colombia for sale in North America" because he was, on a visit to New Your City, "impressed by the prices being paid for summer flowers in the Wholesale Flower Market".[4] She further notes that the newly established "regular flights between Miami and Bogotá may have been the second major factor in Well's decision to "explore flower farming", after which he consulted a Florida agronomist, established the first firm, *Flores Colombianas*, and "exported its first shipments of cut flowers to Miami in 1965".[5] The year 1965 is a landmark in Columbian floriculture because "the first 17 tons of fresh Colombian flowers were exported for a total of US$20,000".[6]

The comparative advantages of Bogotá in the production of flowers include low labour cost "and ideal climatic conditions (light, temperature, water), good road network, and the presence of an international airport".[7] Moreover, there were benefits and incentives "provided by the Vallejo Plan in 1967" and the introduction of a tax credit, in addition to credit programmes, technical assistance and marketing services" which aimed at export promotion.[8] The incentive schemes embodied in the Vallejo Plan "permitted the import of primary commodities and capital goods for the production for export free of tax" and the "tax credit was a credit for the payment of taxes".[9]

These favourable conditions were also underlined by Wijk who not only states the relatively low labour costs and "growing conditions" but also notes the "entrepreneurial skills of exporters to bring the perishable product to the foreign market".[10] He further states Colombia's geographic proximity "to its main market, [i.e.] the eastern states of the USA", Colombia's "flower processing technology and good distribution channels with the international airport of Miami (USA)".[11] Moreover, he raises other favourable conditions such as the preferential treatment offered in the USA and the European Union and the promotion made by the *Colombia Flower Council* which was formed in 1987.[12]

The policy environment was also favourable. Colombia's government undertook vigorous efforts to lower the country's anti-export bias at the same time that the country's flower boom was underway.[13] Meanwhile, the external conditions were positive due to the global economic expansion "triggered to a large extent by the relocation of labour-intensive industries in developing countries with low labour costs" even if most of them are "low quality jobs".[14]

The economic benefits of Colombia's flower industry in the creation of job opportunities are apparent in view of the volume of Colombia's flower export which is the second largest in the world ranking after the Netherlands. The value of its flower exports increased from less than USD 1 million in 1968 to USD 906 million in 2005;" and in 2006, Colombia's cut flower industry had "about 300 national and foreign companies and 111,000 wage labourers (Asocolflores, 2006)".[15] The trade value of Columbia's flower export in 2010 was USD 1.23 billion out of which USD 948.8 million had its source from the flower export to the U.S.[16]

Colombia's flower export steadily increased form 188.3 million kg in volume/ USD 665.7 million in total trade value in 2002 to 220 million kg / USD 1.2 billion in 2010.[17] There was a steady rise from 2002 to 2007 and a decline in 2008 and 2009. Even if the 2010 figure did not attain the 2007 level in net weight, its trade value was higher than that of 2007.

During the initial years, Colombia exported flowers solely to the U.S. There has been a gradual change in the diversification of export destinations. Yet, USA remains to be the major importer of Colombian flowers mainly owing its proximity. The pursuit towards diversification also targeted at diversifying the types of flowers produced for export and efforts to diversify export destinations. There have been changes "in the size of establishments and concentration of flower production"[18] because economy of scale has proved to be beneficial notwithstanding the challenges and risks that are inherent in the markets of perishable products such as flowers.

> Up to the 1980s it was possible for a landowner in Sabana de Bogotá to enter into flower production replacing livestock or vegetables. Today few farms of less than 5 hectares can survive (Hoyos, 1996), mainly for reasons of economies of scale achieved by larger establishments. Exchange rate instability and marketing problems of a perishable product also favour large farms. Small establishments which have managed to survive sell their harvest to large establishments which have the necessary installations for grading, packaging and cold storage and which can count on a highly efficient distribution network abroad.[19]

Farné states the path undergone in the development of Colombia's export markets. He states that production of flowers and exports "grew impressively until 1974" followed by a very slow decline in volume of exports during the mid and late 70s and a stagnation in 1981 and 1982.[20] He notes that growth "recuperated later as a result of the strong devaluation of the peso which enabled Colombian producers to respond to stronger demand for flowers in North America, only for growth to falter in the first part of the 1990s" which according to Farné was attributable to "the strong re-evaluation of the national currency. In addition, producers in Ecuador and Mexico came on the international market".[21]

Vélez, Chairman, Board of Directors of the Colombian Association of Flower Exporters (ASOCOLFLORES), considers the 'Colombian and American Flower Connection' as a win-win partnership in which both sides benefit "in terms of economic, commercial and social impacts". He states fourteen indicators[22] of this positive partnership which, *inter alia*, include the following mutual economic benefits:

i. the economic benefits gained by Colombia from the export revenue;
ii. the corresponding benefits that Colombia's flower export entails for US business undertakings in the course of the distribution of the value added products "along the floral chain";
iii. the benefit that US citizens obtain owing to their ownership of "nearly 20% of the flower export businesses in Colombia" ;
iv. the benefit gained by about "150 flower importer distributor companies" that are mostly located in the Miami area;
v. the benefits obtained by Colombian and US Airlines and air transport cargo handlers;
vi. income generated to about "30 American companies operating hundreds of trucks" which transport cargo "to hundreds of cities over most of the United States";
vii. business opportunities created to over "25,000 traditional florist retailers" and "nearly 1,000 wholesalers [who] receive [about] 60% of their product from Colombian farms";
viii. the market share that flowers imported from Colombia have in the "supermarkets chains, such as Wal-Mart, Kroger, Safeway, Wholefoods, Albertson's, Costco, which have an overall flower market share of about 50%"; and

ix. the role that the floral chain in the USA and in Colombia plays in the diverse industries that provide inputs and services, as in the cases of "the manufactures and distributors of polyethylene for greenhouses, carton packing boxes, fertilizers and pesticides, airline carriers, etc."

6.1.2. Ecuador's late boom despite earlier opportunities

Sawers states that Ecuador has comparatively better growing conditions for flowers than Colombia and he raises the question as to why its flower boom was put on hold for about fifteen years after it started flower production for export for a brief period around 1970.[23] He states that in Ecuador "labor, land, and water cost less than in Colombia" and notes that "Ecuador's location straddling the equator produces not just good, but optimal sunlight for flower cultivation".[24]

> Colombian flowers are grown on the plains around Bogota where growing conditions are fairly uniform. The Ecuadorian highlands, in contrast, have little level ground, and Ecuadorian flowers are produced in a wide variety of microclimates that vary with altitude, prevailing wind, and rainfall, allowing Ecuador to grow a remarkable variety of flowers. The diversity of ecological zones in Ecuador is exploited by inventive entrepreneurs who seek to match flower, field, and market to maximize profits.[25]

Despite these growing conditions and the opportunities for flower export to the U.S. since the mid 1960s, Ecuador was relatively late in entering into the export market. Korovkin and Sanmiguel-Valderrama raise several factors than can explain the late development of Ecuador's flower industry. Ecuador's policy did not give due attention to the flower export sector in the 1970s owing to "its booming oil industry" and because "the military government had a strong control over non-oil exports.[26]

Ecuador shared various favourable conditions with Colombia such as low labour cost, flower growing conditions and the opportunities that the U.S. flower market had availed. But, it had "various disadvantages in the area of transportation, such as an outdated road system".[27] Meanwhile, it had a comparative advantage as a safe investment destination due to its "lower levels of social and political violence compared to those of Colombia", and this advantage was further pronounced "after the transition to political democracy and a gradual shift towards economic [liberalization] in the 1980s and 1990s".[28]

In 1989, the volume of flower export earnings increased 114 percent[29] and its growth "averaged 42 percent growth annually until 1995".[30] The rate of rise in crimes and violence (in the late 1980s and early 1990s) particularly by the drug cartels in Colombia rendered Ecuador an attractive destination, and "Ecuador's success in reforming its economy attracted investors from Colombia, Ecuador, and elsewhere".[31] Furthermore, there was "a major restructuring of the Andean Pact" in the early 1990s which "allowed freer movement of capital among member countries, making it easier for Colombians to bring their investment funds to Ecuador".[32]

The advantage of Ecuador also included its opportunity to use Colombia's good practices. Accordingly, "the Ecuadorian government reduced tariffs and devalued the national currency" and it continued "to rely on cheap state credit as a way to stimulate growth". During "the early stages of the flower export boom, state credit for flower growers increased more than 16 times (from USD 1.6 million in 1990 to USD 26.2 million in 1996)" while the area of flower cultivation "grew, over the same period of time, only fivefold (from 286 to 1485 hectares) (Corporacion Financiera Nacional, 1997: appendix 6).[33] Ecuador's flower exports "grew annually by 35 % from a mere USD 1.7 million in 1986 to USD 293 million in 2003" and its "main export destination is the USA (65 %)".[34]

6.1.3.. Kenya's major export markets: An overview

Kenya established its first cut-flower nurseries in 1969,[35] and it is the largest cut-flower grower and exporter in Africa. Production of flowers for the export market started in the 1980s, with support from the Netherlands,[36] and flower production increased in the 1990s "with private sector investment from the UK and the Netherlands".[37] Kenya's flower industry has steadily grown both in terms of its volume of production and amount of trade value in trade export.

Kenya's flower export increased from 36 million kg (USD 99 million in total trade value) in 2002 to 77 million kg (USD 245.7 million in total trade value) in 2010.[38] There was a significant boom in 2003 and a steady increase thereafter until 2006 after which there is a slight decline mainly owing to recession and the unfavourable climate conditions in Kenya. Throughout the years 2002 to 2009, the Netherlands was the largest market for Kenya's flowers followed by United Kingdom and Germany. In 2009, the export to the Netherlands was USD 195.6 million out of Kenya's total flower export trade value of USD 245.7 million. The percentage of export

to the Netherlands was even bigger in 2008, i.e., USD 210.6 million out of the total trade value of USD 253.4 million, The export to the Netherlands shows a steady increase during the eight years indicated above with a slight decline in 2009 from the 2008 figure but still higher than the 2007 and earlier export figures.

6.2. Challenges in Profit Structure and Economic Sustainability

The major challenges encountered in flower industries are related to economic, social, environmental and governance (institutional) dimensions of sustainability. In the economic dimension, the challenges are mainly related with the cost and profit structure in the value chain. This section deals with the challenges in the economic dimension of sustainability (with particular focus on Kenya), while the next two sections illustrate some social and environmental challenges in floriculture.

6.2.1. Cost percentage and gross profit margins

Through the long process of the flower value chain, costs are incurred and the income from the sale of flowers is divided between the factors that create the values in the chain. A case study[39] made on two flower farms in Kenya and Tanzania makes a comparison regarding, *inter alia*, the cost of production percentage in the value chain.

Table 1: Comparing [the cost structures of two farms]

Item	Mount Menu Flowers (Tanzania)	Winchester Farm (Kenya)
Production costs	39.3%	45.4%
Packaging	2.8%	4.1%
Freight and marketing	42%	24%
Gross margin	16.9%	26.5%

Source: Mitiambo

Mitiambo gives the following explanation to the comparison above:

> Mount Menu shows a lower margin than Winchester by almost 10%. The explanation for this is mainly freight costs. Winchester is close to Nairobi which has good international air connections and the airport has many freight operators because there is a lot of business passing through there. On the other hand, KIA and Dar es Salaam airports have low volumes and therefore per unit charges for freight are high. However, Mount Menu flowers enjoy lower labour costs because Winchester is close to a large city. The lower

> packaging costs in Mount Menu are mainly due to the cost of materials which is lower in Tanzania.[40]

Mitiambo also raises the advantage that Winchester Farm has in getting a larger margin due to cluster benefits. Winchester "is part of a larger group and is able to share costs with sister companies especially marketing and freight." Mitiambo also mentions Winchester's additional cluster benefits in "being able to access services offered by many supportive organizations such as chemical and fertilizer companies as well as seedling producers." An explanation is also given about the similarity of the two farms with regard to chain integration because both trade with the auction strand and direct retailers such as supermarkets.[41]

The issue of cost and profit margin percentage is crucial in the analysis of the economic benefits that are gained in the course of exports. The figures shown as Winchester's cost and gross profit margin percentage do not apply to all flower farms in Kenya, because Winchester is a big farm with competitive advantages of market connections and cluster benefits. The cost structure in Table 1 can be compared with the following cost and profit margin percentage that was stated by Elshof in 1998 in relation with the flower farms in the Netherlands.

> In the whole production chain of cut flowers, the degree to which the different actors contribute to costs varies; the same is true for their gross profit margins. ... Around two-fifths goes to the growers and retailers each, 12 per cent goes to wholesalers, and 3 per cent to the auctions. ... In the total chain, the cost structure for different cost factors in percentage is: labour 47.2; interest/depreciation 24.2; energy/transport 8.5; plant materials 6; and other costs 14.1.[42]

Table 2: [Costs in the whole value chain and profit margins in the marketing chain]

	Cost contribution (%)	Gross profit margin (%)
Growers	42	-
Auctions	3	55
Wholesale trade	12	22
Retail trade	43	43
Source: Rabobank, quoted in Rabobank, "A view of international competitiveness in the floristry industry", June 1992. All figures ... are taken from this publication.		

The table shows the breakdown of cost in the whole value chain and the structure of profit margins after the flowers are sold at auctions. The title of the table (which originally was "Costs

and profits in the flower chain") is changed because it shows the cost contribution for the whole value chain and the profit structure for the marketing tier of the value chain.

The gross profit margin structure in Ecuador's flower export shows lesser percentages than the margin percentage in the Netherlands indicated in Table 2 above. Even if the flower boom is beneficial to Ecuador, the share of flower growers from the price received from the ultimate consumer is modest. In 2003, for example "[t]he producer's share of the consumer dollar" was only "16 % (USD 0.25[per stem]), whereas freight and marketing costs to the US importer amount[ed] to 55 % (USD 0.85[per stem]). The retail price [was] USD 1.55 per stem.[43] The gap between the price per stem in US markets vis-à-vis the producer's share (of only 16 %), makes it difficult to enhance social and environmental compliance standards.

6.2.2. Cost structure of Kenya's export in auction and direct markets

Based on a study made by Thoen *et al* (1999),[44] Wijnands analyzes the comparative costs in three channels of Kenya's flower export. These channels are "the Dutch auctions to the German retailer, direct to the German market and direct to the UK market".[45] Thoen *et al* state that "Supermarkets [in the UK] insist on competitive prices. They monitor prices carefully and see increasing both scale and innovation as the means to achieve cost efficiencies".[46] The following table compares share of costs in the three channels of Kenya's flower export market:

Table 3: Share of costs in % of retail purchasing price of Kenyan flowers

	Dutch auction to German market (stems)	**Direct to German market (stems)**	**UK direct chain (bouquets)**
Producer's share	38	45	57
Air freight	18	19	24
Marketing costs	44	36	20
Purchase price retail	100	100	100
Consumer price	214	214	235

Source: Based on Thoen *et al*., 1999

The comparative benefit in selling to direct markets is apparent. However, auction markets remain to be the major channels of Kenya's flower export. Kenya's flower export to the Netherlands which represents auction markets is considerably higher than the figures that show direct exports to UK and Germany. In addition to the various transaction costs involved in direct markets, they need diversification, varieties, enhanced quality, established relations of trust and

long-term business relations. In spite of the disadvantages due to relatively lower gross profit margins to growers, the accessibility and transparency of auction markets render them attractive for newly established farms and for all farms that focus on mass cut-flower markets.

6.2.3. Challenges in the economic sustainability of Kenya's flower sector

Kenya's competitive advantages include favourable climate "for year round cultivation", low production cost including labour cost and "plenty space for large companies".[47] Flower exports have a significant share in the export of horticulture products which is one of the major sources of foreign currency. The domestic market for flowers is "almost completely absent".[48]

About "97 % of Kenya's flower exports are made by large scale companies mostly owned by foreigners" and around "40 producers account for up to 70% of the production and export".[49] Sher Agencies which is "the world's largest supplier and producer of roses" is one of these companies and "[i]ts greenhouses in Kenya, Ethiopia, and the Netherlands produce 600 million roses a year".[50]

The economic benefits that cut flowers have to the Kenyan economy are comparable to the ones stated under the previous sections. However, concerns are being forwarded regarding the sustainability of the benefits, poor labour conditions and adverse environmental impact. Owing to the volatility of flower prices, the sustainability of the economic benefits is causing much concern and the export market needs enhanced entry into direct marketing channels which require diversification and the enhancement of product quality.

> As the flower business expands, production increases, supply outweighs demand, and consumer response becomes more unpredictable demanding high standard products that offer diversity in colour, good texture, forms as well as better performance in interior environment (Hadiwigeno, 1998), long shelf life and sweet smell (Redfern and Riungu, 2007). For instance for many years, roses in Kenya dominated the EU market but now, consumers in the EU have expressed concerns about the scentless nature of the roses.[51]

Wijnands states that "[t]he overall economic development of Kenya is weak" and its annual GDP (gross domestic production) growth has been around 1-2 % for the last 5 years" during which the priorities of the government have been "to support the growth in employment and to tackle

corruption".[52] Under such circumstances, policies tend to incline towards narrower short-term benefits rather than long-term concerns of sustainability.

The profit margin structure in the value chain and volatile price thus constitute challenges to the sustainability of the economic benefits from the sector. This is because flower growers are at the mercy of the market over which they do not have control due to the perishabilty of flowers. This feature of flowers involves risk not only at the marketing stage but throughout the processes of production, harvesting, grading, packing and transportation because of the need for "an effective and uninterrupted cold chain from the moment the flowers are harvested until they reach the vase of the final consumer".[53] The distance to the ultimate consumers has rendered air freight handling crucial and four airfreight forwarders, who specialize in cargo forwarding, "are responsible for approximately 90 % of the Kenyan flower exports. However, smallholders cannot afford these services and they have to use the Kenya Air freight handling, without cold storage".[54] This, in effect, puts small growers at a disadvantage.

The efficiency in the floral chain depends on various factors that determine the pace required "in harvesting and packaging, as well as in transportation" because the "quality of the product, and thus its price, are dependent not just on the efficiency of transportation but also on the environment in which the produce is stored and shipped".[55] This is the core feature of the flower value chain because "an efficient marketing chain ensures that produce reaches consumers in prime condition and guarantees top prices to the retailer and producer".[56]

These challenges regarding the economic sustainability of Kenya's flower industry further evoke queries as to why this vibrant sector and Kenya's success in the export of agricultural products have not been able to bring about a visible knock-on effect in the economy commensurate with what the figures in the Export tables indicate. Close examination of the gross profit margin structure in Tables 1 to 3 (above) indicates that the portion of the proceeds from the export market that trickles down to the grower is modest. Even more so, a significant portion of the figures that appear as export revenue do not remain as part of Kenya's economy owing to repatriation of the profits of foreign investment.

6.3. Challenges in Labour Conditions and Environmental Sustainability

The notion of social and environmental responsibility has broadened the concerns of corporate activities beyond the narrow objective of profitability. "Companies now talk frequently of a 'triple bottom-line'" which refers to 'the notion that companies should be concerned with not only the traditional bottom-line associated with profitability, but also goals related to environmental protection and meeting social needs'."[57]

Although the "recognition of the triple bottom-line" envisages 'stakeholder accountability',[58] various multinational corporations resort to double standards for different locations. The labour and environmental standards observed in the economic activities of many MNEs in developing countries are usually far below the thresholds they are required to fulfil in their home states. Hughes notes that "neo-liberal political rationalities centering on the ideals of competition and the market mechanism" underpin "the workings of the global cut flower trade".[59] There is an increasing awareness about the need for independent monitoring verification of compliance to standards of production in export industries such as cut flowers because voluntary codes of conduct monitored by the floriculture sector and mere reliance on the monitoring made by government regulatory bodies have been found inadequate.[60]

6.3.1. Labour conditions

Adequately unprotected working conditions in flower growing can (through skin penetration) cause "cancer, birth defects and other reproductive illnesses, and neurologic disease in humans" while workers "transplant, prune, cut, and pack flowers without protective garb".[61] Pesticides may be inhaled in the course of "dusting, spraying, and other applications of chemicals in enclosed spaces such as greenhouses".[62] This potential risk exists in all flower farms and the level of actual exposure to such risks depends upon the compliance standards that are put in place. Although Colombia, Ecuador and Kenya are used as examples in the challenges highlighted below, the concerns raised are applicable to the flower sector in all countries. With a view to avoiding thematic overlapping, labour conditions in general are discussed in the context of Colombia's and Ecuador's experience while the largely 'gendered' aspect of poor labour conditions is highlighted in the context of Kenya's flower industry.

a) Labour conditions in Colombia and Ecuador

Poor labour condition is one of the major concerns in the flower industry. In 1994 and 1995 there were frequent labour inspections in Colombia by the regional offices of the Ministry of Labour due to "international pressures against the use of child workers".[63] However, the frequency of controls has substantially declined and they are not conducted as preventive schemes but only "when some type of denunciation is lodged by workers".[64] The Ministry of Labour attributes this problem to the "scarcity of staff, its workload and the absence of adequate means of transport, in view of the fact that the farms are located far from urban centres and are often difficult to locate".[65]

Labour inspection is necessary in flower farms because there are "two main risk factors associated with flower production: handling and storage of toxic substances employed in fumigation and handling of residues, and risks associated with the ergonomic positions which work on farms require".[66] Farné notes the absence of a hygiene and medical committee in many flower farms and expresses his concerns regarding waste disposal by citing Diaz:[67]

> Diaz (1994) finds that "in some enterprises there are ovens to burn green wastes and toxic residues (as prescribed by the law), but in most, these are often burned in the open air. The disposal of containers and packaging of pesticides varies from burning in ovens, in open air, reusing, throwing them away, selling them or giving them away".[68]

Farné concludes that there are three areas that need further research, namely "child labour, occupational health and environmental impact." He states the decline in the incidence of child labour and the efforts made by many enterprises to improve the health conditions and solve environmental problems. He stresses that "there does not exist any systematic evaluation of the results achieved and of the observance of the legal texts in this respect, and even less is known about what is happening among the enterprises not affiliated to the employers' associations".[69]

Even if poor labour and environmental compliance standards in Ecuador were not brought to the attention of the public in U.S.A and Europe, "[b]etween 1990 and 1994, during the early stages of Ecuador's flower export expansion, the minimum wage rate in Ecuador was between 20% and 25% lower" than Colombia, and "the levels of labour flexibility [were] probably also higher in Ecuador." Moreover the issues of labour standards, trade unions, etc were remarkably weak in Ecuador's business community.[70] As Palán and Palán state, the downsides of Ecuador's

labour policy does not have adequate schemes to protect the interest of farm workers from their employers who "are looking for ways to increase labour flexibility, so as to maintain low costs of production" and who strongly resist "against a proposal to pay 15 percent of profits to workers".[71]

b) 'Gendered' flower growing in Kenya

Flower farms optimize flexible methods of production and the employment of temporary and informal labour force that works in shifts and whose number can flexibly be reduced or increased according to the amount of the demand from the supermarkets. Such workers are the most vulnerable in flower farms because of lesser rights for continued employments and lack of remedies against undue dismissal. They are also paid less and are not entitled to join trade unions. While illegal immigrants constitute a significant portion of the casual labour force in countries such as the Netherlands,[72] women workers dominate the flower industry in all developing countries.

Barrientos and Dolan[73] explore "the gender sensitivity of codes currently applied in the African export horticulture sector from an analytical perspective that combines global value chain and gendered economy approaches." Based on these approaches they use the 'gender pyramid,' which provides a framework for mapping and assessing the gender content of codes of conduct." The study covered the patterns of employment and working conditions "in three commodity groups and countries exporting to European markets: South African fruits, Kenyan flowers and Zambian vegetables and flowers."

The study "found that women are concentrated in the segments of the production process that hold the most significance for the quality of the final product such as picking and packing, and value-added processing activities." Women were perceived by their employers "as more 'productive,' citing women's ostensibly 'nimble fingers' and capacity to perform tedious and delicate work as essential to fulfilling the quality imperatives of overseas buyers." However, this positive impression about women is not accompanied by a stable employment. It is found that "female employment is characterized by highly gendered and informal employment relations." The study showed that "women form the core of the temporary, seasonal and casual work force, while men tend to be concentrated in the fewer permanent jobs".[74]

Dolan *et al* recognize the efforts and the positive achievements obtained in the realm of working conditions in Kenya but they underline five factors that need to be addressed in order to enhance gender rights and participation in the cut flower industry. They note that problems at the farm and national levels are *primarily* caused by the social norms in Kenya (such as sexual harassment, discrimination and occupational segregation), and *secondly*, the hierarchical organization of companies renders communication (such as access to complaints) difficult for women in the vertical lines.[75] According to Dolan *et al*, the problem of hierarchical organization "is exacerbated by the fact that there are relatively few female supervisors, and an absence of grievance mechanisms or viable workers' committees through which workers can articulate their concerns".[76]

The third and fourth factors that are identified by Dolan *et al* are exogenous factors related with *buyer behaviour* and the *top-down approach* in codes of conduct in the cut flower industry. The study states that European buyers in general (particularly supermarkets) "tend to pass risk and insecurity down the supply chain" as can be seen in "the institution of 'just-in-time' production methods" which "passes the costs of inventory holding to exporters, creating long and unpredictable hours for workers in Kenya."

This causes intensive competitive pressures, and cut flower producers who are "squeezed in returns" would "deflect this pressure onto the workforce, obliging employees to work longer and harder so that producers can maintain market access." The fact that "the costs of code compliance are also passed to on to producers" ultimately "works against creating conditions conducive to long-term social improvement".[77] The other exogenous factor that renders the alleviation of working conditions in flower farms difficult is the fact that the codes of conduct for the cut flower industry "have been largely driven by developed country consumers and business, rather than producer opinions or worker priorities".[78]

The fifth factor that Dolan *et al* have identified as problematic is the "snap shot and technical" approach to auditing working conditions at flower farms which fails to include "worker and stakeholder participation in the auditing process" and which rather considers auditing largely as "a technical exercise that misse[s] many of the deeper issues that concern workers".[79] Under this approach "the motivation for adopting codes was to satisfy the requirements of Northern markets rather than to effect substantive changes in employment practices and working conditions." As

Dolan *et al* have duly observed, this "checklist 'compliance' approach is indeed "ill equipped to identify the types of problems workers face, leaving poor working conditions intact".[80]

6.3.2. Environmental Challenges: Lessons from Lake Naivasha

Most of Kenya's large flower farms are around Lake Naivasha which is shrinking, and certain shores of the lake have been invaded by waves of algae. The report of the Kenya Flower Council at its 2009 annual general meeting in Nairobi stated the Council's concerns that "the falling waters of Lake Naivasha, the wilting demand by external markets and the renewed carbon miles debate in the UK have conspired to spread gloom".[81]

The causes for Naivasha's falling waters are attributed to the unsustainable rate of water extraction for the irrigation of modern farms particularly flower farms and owing to the pressure and ecological burden exerted by domestic use. The population density in Naivasha town results from the increasing number of workers and their families who are drawn to the flower farms around the lake. The pollution of the lake is mainly caused by the run-off of pesticides and chemicals from the flower farms. The following statement of a visitor[82] to the lake indicates the scope of the problem:

> We saw pipes pumping water from the lake to the flower greenhouses and a ditch where waste water drained back into the lake … Pesticides and fungicides were plainly visible in a storage facility on the property. If action isn't taken immediately, the lake will not only be polluted, it will be drained".[83]

The volume of water extracted for floriculture is very intensive and this causes pressures on lakes, rivers, and water tables where farms use underground water.[84] There are also instances of "direct discharge of pesticide residues into waterways, washing of pesticide equipment in waterways, runoff reaching important aquifer recharge areas, and some anecdotes of bird die-offs after application of granular pesticides" [85] in various farms in developing countries where the environmental compliance standards are weak.

> David Harper, a professor at the University of Leicester …, decries the environmental situation in Naivasha: "... It will become a turgid, smelly pond with impoverished communities eking out a living along bare shores…The unsustainable extraction of water for agriculture, horticulture, urban and residential water supplies is sucking the lake dry.

> As the lake becomes smaller and shallower it will become warmer, fueling the growth of microscopic algae. It is only a matter of time before the lake becomes toxic".[86]

Environmental compliance standards are not 'trade offs' that can be made in favour of economic benefits in floriculture but are rather complementary attributes to enhanced flower export markets. "Roses are a luxury feel-good purchase. If consumers feel bad about how they are produced, they may not want to buy, so companies have had to respond to criticism".[87] Some flower farms in Kenya have thus started to respond to these concerns by slashing pesticide use, enhancing biological pest control and investing "to minimise their water use and maximise recycling and rainwater harvesting".[88]

According to Section 3 of Kenya's 2002 Water Act "Every water resource is vested in the State, subject to any rights of user granted [under the] act or any other written law." The state also has regulatory authority on the right to use (Section 6) and permit is required for certain activities (Section 25). The issuance of the permit considers various factors including "the likely effect of the proposed water use on other water users"[89], "the quality of the water resource which may be required for the reserve"[90] and the "probable duration of the activity or undertaking for which a water use is to be authorised".[91] Despite this legal framework, the environmental harm seems to continue in Kenya. This shows the extent to which the enforcement of a legal regime is as important as its enactment. Kenya's efforts toward the 2012 Water Draft Bill which is meant to amend the 2002 Water Act and the steadily rising awareness about the adverse impact of water resource degradation and depletion are expected to lead towards an enhanced quest for sustainable floriculture in Kenya.

A case in point in relation with the footprints of the flower sector in Kenya is the virtual water export of about 7 to 13 litres of water per rose stem[92] based on the volume of water needed per hectare a day and the yield of a hectare per cutting cycle. This raises the question whether the value of water as an economic good, as the core resource for the realization of the right to water and as the bloodstream of the ecosystem should continue to be neglected. As Philippe Cullet notes:

> [t]he premise must be that water is first of all essential for life, essential for the realization of a number of our most fundamental human rights, essential for all ecosystems and extremely important as a resource for a variety of activities ranging from food production to energy

> generation. This gives water law a prime role in poverty eradication and the realisation of a socially equitable and environmentally sustainable process of development. In other words, water law must be at the centre of any broadly conceived strategy of development.[93]

Lessons can be learnt from the level of effectiveness in water law regimes in Australia such as the "Waterway Protection Note"[94] issued in 2003 which regulates floriculture activities in sensitive environments. The purpose of the Note is, *inter alia*, to give guidelines "on acceptable practices used to protect the quality of the State's water resources" and to "assist in later development of multi-agency guidelines that seek to balance the views of industry, government and the community, while sustaining a healthy environment." The Note "aims to limit the risk of water resource contamination from floricultural activities" and it underlines the need to protect water resources from the adverse harm that can be caused by chemicals and pesticides:

> Floricultural activities, especially those conducted intensively without a barrier to chemical leaching into the environment, can pose a threat to the quality of our State's water resources. Our concerns include overwatering, excessive or poorly timed use of fertilisers or pesticides, inappropriate storage of chemicals and disposal of wastes that can leach contaminants. We recommend the development and use of industry best management practice for all floricultural activities. …[95]

The Note recognizes the advantages of "fully contained hydroponic[96] systems" which have become popular in Australia. The Note's core recommendation is that "adequate separation distances be maintained between floriculture and natural waterways to minimise the risk of degradation of water quality. These separation distances are determined on the basis of the waterway values, vulnerability and biophysical criteria".[97] The Waterway Protection Note fits into the wider Australian legal framework such as the 2007 Water Act [98] which, *inter alia*, regulates the environmental impact of usages of water resources.

Although flowers are agricultural products, the fact that they are not edible shields them from the pest residue control made by importing countries on other agricultural products. On the other hand, flower farms intensively use pesticides and chemicals[99] against pest and weeds thereby rendering flowers the most exposed products to pesticides and chemicals but the least monitored as imports.

6.4. Pursuits toward Codes of Practice and Challenges

The challenges highlighted above seem to have a cause and effect relationship. On the one hand, one of the challenges that developing countries encounter relates to the cost and profit structure of the value chain which allows the production strand to get only about 16% of the retail prices per stem. At the same time there is the challenge that compliance standards in labour conditions and the environmental sustainability involve cost, and that non compliance adversely affects access to export markets. Nevertheless, there are efforts in the leading flower exporters from developing countries to put in place codes of practice, the adequate realization of which depends upon factors that are mainly exogenous.

6.4.1. Colombia's experience in eco-labels

One of the major challenges encountered by the Colombian flower industry relates to standards and eco-labels as set in the European market. Grolleau *et al* argue that the comparative advantage which developing countries have due to favourable climatic conditions and low labour cost will be offset by such standards and eco-labels because these standards and the "transportation input for producers located at various distances from the consumption place" will favour European products and disadvantage their competitors from South America.[100] The criticism is particularly against "several labeling schemes (notably the 'Flower Label Programme' created in 1996)" which are considered as "part of the developed countries campaign" that are meant to "raise environmental and social standards in developing countries".[101] They also criticize the likelihood that certain standards might include "energy criteria related to transports that would automatically put domestic producers at an advantage".[102]

Needless-to-say, the *carbon miles*, i.e. the distance that flowers travel to their export destination and the resultant carbon emissions are points of concern in light of global warming and climate change. However, this factor, on its own, is hardly persuasive. Other variables being equal, if a choice is to be made between cut-flowers that are locally produced vis-à-vis the ones that have traversed thousands of miles through air transport, preference apparently goes to the former.

The arguments forwarded by Grolleau *et al* oppose eco-labeling as such, and standards in general. This is not convincing for two reasons. First, standards or eco-labels in relation to

working conditions and environmental compliance standards are indispensable as long as they are justified by the rationale they are meant to serve and if they apply to all producers irrespective of location. It will thus be unreasonable to count on 'competitiveness' through a 'race to the bottom' with regard to these standards. And secondly, any race to lower cost of production that adversely affects social well-being and environmental sustainability will ultimately render economic 'benefits' unsustainable.

It is appreciable that Grolleau *et al* make an important distinction between the good intentions of experts who design such standards (and eco-labels) vis-à-vis the maneuvers of the European flower industry which uses them as shields against 'fierce competitive pressures'.[103] Such distinction should be made between the validity and reliability of standards and eco-labels vis-à-vis the act of invoking them with bad intentions. Even the latter scenario does not justify unqualified rejection of standards and eco-labels but it merely provides us with a caveat to distinguish between allegations of violation of the standards with 'protectionist' intentions against the ones that are valid and supported by facts.

6.4.2. Florverde: "Good for the earth, the workers and for [farm owners]"

The motto "*Good for the earth, the workers and for you*" appears on the front page of Florverde, Standard Version 5.1 (December 2007) and it bears not only a very strong message but also the capsule themes of the economic, social and environmental pillars of sustainable development. These three pillars are also currently being referred to us the THREE "P"s, namely PROFIT, PEOPLE and the PLANET.

Florverde[104] was created by Asocolflores (the Colombian Association of Flower Exporters) "as a strategic tool to promote sustainable floriculture underpinned by social responsibility, at both company and sector levels".[105] The programme promotes "the adoption of the Florverde standard, which features best farming practices, minimization of agrochemical products, protection of workers' rights, high quality products and managerial responsibility among other." It also encourages "the adoption of an independent, internationally known certification system which allows access of floral products to international markets" and promotes "participation in the Florverde information system ... for sectoral analysis, diagnosis and action through local measures aimed at improving the sector and region, together with other initiatives."

The core principles of the program are workers' welfare, environmental protection, handling and care of the product and management responsibility.[106] It embodies two strategies, namely a *certification system* "based on national and international regulations which generate confidence as to how processes, flowers and ornamentals comply with the requirements of the standard, thus eliminating any possible technical barriers to trade" and secondly a "*sectoral information system* with regard to the performance by companies which participate in the program".[107] In 2011 it had 99 participants[108] and 73 certified products approved by GLOBALG.A.P [109] (which was formerly known as EUROG.A.P.).

6.4.3. Expoflores' vision beyond mass flower markets

The issues of social and environmental responsibility and the discourse on standards came to the forefront when Ecuador's flower exports encountered strong competitive pressures from African and Asian flower exports which had relatively lower labour cost and possibly other comparative advantages depending upon their proximity to certain export markets. There were of course expressions of interest and commitment to social and environmental standards starting from the mid-1980s, particularly after the formation of the Association of Flower Growers and Exporters of Ecuador (Expoflores) in 1984. These concerns were more articulated as Ecuador started losing its competitive advantage in mass flower markets and as it aspired towards entering into the production of diversified flowers with higher quality and standards.

The mission statement of Explofores reads "We exist to represent the Ecuadorian flower growing sector and to satisfy its members through fast and effective services which help to create value in our business based on social and environmental norms".[110] The vision statement has a similar theme. As Korovkin and Sanmiguel-Valderrama noted, one of the means advocated by Expoflores to achieve this objective was giving an end to "the reliance on brokers –who cater to anonymous, mass flower markets– and building an international image of the exotic and aesthetically perfect Ecuadorian rose".[111] To this end, the re-engineering programme of Expoflores "encourages flower growers to improve their production practices, upgrade workers' skills, reduce the use of chemical pesticides and abide by national labour legislation".[112]

The efforts (in the flower exporting countries discussed in this chapter) towards the improvement of production practices are indeed commendable. However, they run the risk of being mere good intentions unless the challenges discussed in Section 6.2 regarding the cost and profit structure in the value chain are addressed. This is because meaningful achievements in labour conditions and environmental compliance standards involve cost. On the other hand, the sustenance of the economic benefits depends upon the sustainability of the factors (including soil and water) that constitute their foundation. The comparative experience in Colombia, Ecuador and Kenya clearly show the economic benefits of the sector and the challenges that are encountered in putting in place the social and environmental standards of compliance that are required for sustainable floriculture. The comparative experience in this regard informs the discussion in the next two chapters which deal with the Ethiopian flower industry.

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Notes

[1] V.L. Sheela (2008), "Flowers for Trade", *Horticulture Science Series* 10 (New India Publishing Company), p. 1.

[2] Stefano Farné (1998), "Employment and working conditions in the Colombian flower industry", *International Labour Office*, Working Paper, Industrial Activities Branch (Geneva November 1998), SAP 2.75/WP.129, Section 2.1; [based on Diaz, M. 1994. "Prospección al trabajo infantil en la floricultura," CES-CIIF, mimeo, Bogotá, May.]

Available at: <http://www.ilo.org/public/english/dialogue/sector/papers/workcolb/index.htm>

(Accessed: 17 March 2010).

[3] *Ibid*.

[4] Catherine Ziegler (2007), *Favored Flowers: Culture and Economy in the Global System* (Durham/London: Duke University Press), p.42.

[5] *Ibid.*

[6] Farné, *supra* note 2; Footnote 2 in Farné reads "Fairbanks and Lindsay (1997) [Fairbanks, M; Lindsay, S. 1997."Plowing the sea", Harvard University Press] write a similar history but with different names. According to these authors it was a Colombian who lived abroad for 20 years and upon his return to Colombia noted the advantages which prevailed in Sabana de Bogotá with regard to the commercial production of flowers. It was his enterprise which after struggling for various years to introduce and adapt the cultivation techniques used in the United States which in 1965 achieved the first fresh flower exports to North America.

[7] *Ibid*.

[8] Farné, *supra* note 2.

[9] *Ibid*, Footnote 3.

"By 1969, seven enterprises already existed in Sabana de Bogotá, quickly followed by new enterprises in other regions of the country, such as Antioquia, Rio Negro and La Ceja, Cauca (Piedamó), and Valle del Cauca (Buga) (Diaz and Rojas, 1994). In 1981 there were around 130 cultivator-exporters, and [in 1998] 500. Sabana de Bogotá and the Department of Cundinamarca remain the main areas for flower. Close to 90 per cent of the production of fresh flowers originates from the rural zones close to the capital of the republic, with 25 of the 27 municipalities of Sabana participating." [Farné , *Ibid*.]

[10] Jeroen van Wijk (1994) "Floriculture in Colombia", *Biotechnology and Development Monitor*, No. 20, Sept. 1994, Available at: <http://www.biotech-monitor.nl/2003.htm>. Last visited: 26 May 2011

[11] *Ibid*.

[12] *Ibid*.

[13] Larry Sawers (2005), "Nontraditional or New Traditional Exports: Ecuador's Flower Boom", *Latin American Research Review*, Vol. 40, No. 3, p. 60.

[14] Tanya Korovkin and Olga Sanmiguel-Valderrama (2007), "Labour Standards, Global Markets and Non-State Initiatives: Colombia's and Ecuador's Flower Industries in Comparative Perspective", *Third World Quarterly*, Vol. 28, No. 1 (2007), p. 117.

[15] *Ibid*, p. 121.

[16] United Nations Commodity Trade Statistics Database | Statistics Division.

[17] Source of data: United Nations Commodity Trade Statistics Database | Statistics Division (N.B- The figures are rounded up).

[18] Farné, *supra* note 2, Section 2.2.

[19] *Ibid*.

[20] *Ibid*.

[21] *Ibid*.

[22] Ernesto Vélez (2007), Colombian Floriculture, A case of competitive entrepreneurship, with social and environmental responsibility, in a country under difficult and changing conditions (No. 2 of the distinguished lecture series, Texas A.& M. University, March 2007), pp. 6-9.

[23] Sawers, *supra* note 13, p. 58

[24] *Ibid*.

[25] *Ibid*.

[26] Korovkin and Sanmiguel-Valderrama *supra* note 14, p. 125.

[27] *Ibid*.

[28] *Ibid*, pp. 125, 126.

[29] Sawers, *supra* note 13, p. 41.

[30] *Ibid*.

[31] *Ibid*, p. 61.

[32] *Ibid*.

[33] Korovkin and Sanmiguel-Valderrama, *supra* note 14, p. 126.

[34] Jo Wijnands (2005), "Sustainable International Networks in the Flower Industry: Bridging Empirical Findings and Theoretical Approaches (International Society for Horticultural Science (ISHS), October 2005), p. 63.

[35] N.S.P. de Groot (1998), "Floriculture Worldwide, Trade and Consumption Patterns", *World Conference on Horticultural Research*, (International Society for Horticultural Science, 17-20 June 1998, Rome, Italy), Section 3.1.

[36] Peter Maangi Mitiambo, Value Chain Analysis for the Flower Value Chain in Kenya & Tanzania, <http://www.roundtableafrica.net/media/uploads/File/Peter%20Maangi%20MitiamboValue%20Chain%20Analysis%20for%20the%20Flower%20Industry%20in%20Kenya%20&%20Tanzaniax.pdf>

[37] *Ibid*.

[38] Source of data: United Nations Commodity Trade Statistics Database, 2011 | Statistics Division (N.B-The figures are rounded up).

[39] Mitiambo, *supra* note 36.

[40] *Ibid*.

[41] *Ibid*.

[42] Paul Elshof (1998, Updated 2000) "The Dutch flower sector: Structure, trends and employment", Working Papers, *International Labour Office Geneva* (SAP 2.64/WP.120), Section 3.

[43] Wijnands, *supra* note 34, p. 63.

[44] Referenced by Wijnands as: Thoen, R., S. Jaffee, C. Dolan and L. Waithaka. Equatorial Rose: The Kenyan – European Cut Flower Supply Chain. (1999). www1.worldbank.org/wbiep/trade/c_papers/Roses2KenyaSupplychain.pdf (Retrieved on 22-Sept-2004).

[45] Wijnands, *supra* note 34, p. 50.

[46] *Ibid*, quoting Thoen *et al*.

[47] Abu Kargbo, Jing Mao and Cai-yun Wang (2010), "The progress and issues in the Dutch, Chinese and Kenyan floriculture industries", *African Journal of Biotechnology* Vol. 9(44), November 2010, p. 7405.

[48] Wijnands , *supra* note 34, p. 48.

[49] Mitiambo, *supra* note 36, Section 3.

[50] Lake Naivasha, Withering under the Assault of International Flower Vendors" (Food and Water Watch, & and Council of Canadians, January 2008), page 2.

[51] Kargbo *et al*, *supra* note 47, pp. 7406-7407.

[52] Wijnands , *supra* note 34, p. 49.

[53] *Ibid*, p. 50.

[54] *Ibid*.

> The good practice (at the airport) that deserves appreciation is the fact that "most air freighters facilitate customs and inspection [conducted] by the Kenya Plant Health Inspectorate Service (KEPHIS) for phytosanitary certificates". [*Ibid*.]

[55] Hazel R. Barrett, Brian W. Ilbery, Angela W. Browne, Tony Binns (1999), "Globalization and the Changing Networks of Food Supply: The Importation of Fresh Horticultural Produce from Kenya into the UK", *Transactions of the Institute of British Geographers*, New Series, Vol. 24, No. 2, p. 164.

[56] *Ibid*.

[57] Alex Hughes (2001), "Global Commodity Networks, Ethical Trade and Governmentality: Organizing Business Responsibility in the Kenyan Cut Flower Industry", *Transactions of the Institute of British Geographers*, New Series, Vol. 26, No. 4, p. 392.

[58] *Ibid* (citing Utting 2000, 5; Blowfield 1999; O'Riordan 2000; Zadek 1998).

[59] *Ibid*, p. 396.

[60] Hughes cites Zadek (1998) who notes, 'The fig leaves of codes of conduct are in themselves not enough . . . What is in addition demanded are reports of performance against these codes, externally verified' (1427-8). According to Hughes "Two dominant models for independent verification currently prevail. First, there is the arrangement whereby a combination of NGOs and trade unions based in the producing region itself monitor standards. By contrast, the second approach involves the use of an independent auditor, with the result that labour in export industries comes to be regulated by audit companies who represent neither the state nor the workers themselves (Hensman 2000)." [Huges, *Ibid*, p. 392].

[61] David Tenenbaum (2002), "Would a Rose Smell as Sweet?" *Environmental Health Perspectives*, Vol. 110, No. 5, May 2002.

[62] *Ibid*.

[63] Farné, *supra* note 2, Section 5.9.

[64] *Ibid*.

[65] *Ibid*.

[66] *Ibid*, Section 5.10. "In recent years not only has Asocolflores worked for the establishment of a social and environmental programme called Green Flower (Florverde) which establishes objectives in relation to the control of environmental impact on occupational health, but also Colombia has implemented a system of occupational risks management." Farné's Footnote 28.

[67] Diaz, M. 1994, "Prospección al trabajo infantil en la floricultura," CES-CIIF, mimeo, Bogotá.

[68] *Ibid*.

[69] Farné, *supra* note 2, Section 6.

[70] Korovkin and Sanmiguel-Valderrama, *supra*, note 14, p. 126.

[71] Zonia Palán and Carlos Palán (1999**), "**Employment and working conditions in the Ecuadorian flower industry" (*Working papers*, International Labour Office, Geneva, August 1999) Updated 28 September 2000, Section 3.2.

[72] Elshof, *supra* note 42, Section 3.

[73] Stephanie Barrientos & Catherine Dolan (2003), "A Gendered Value Chain Approach to Codes of Conduct in African Horticulture", World Development Vol. 31, No. 9, pp. 1511–1526,

[74] *Ibid*, p. 1514 (citing Barrientos, McClenaghan, & Orton, 2000; Dolan & Tewari, 2001)

> "Women tend to be crowded into a narrow range of seasonal occupations characterized by long hours and few opportunities for meeting domestic responsibilities (due to insufficient childcare, social provision and maternity leave). Informal female employment is accompanied by job insecurity, risk and lack of employment or social protection, often with the poorest conditions of employment amongst horticultural workers (Barrientos et al., 2000).... The retailer's adoption of just-in-time production methods passes the costs of demand instability and inventory control upstream to producers. This has made elasticity of labour a competitive asset." [Barrientos & Dolan, *Ibid]*

[75] Catherine Dolan, Maggie Opondo & Sally Smith (2004), "Gender, Rights and Participation in the Kenya Cut Flower Industry", NRI (National Research Institute) Report No. 2768, SSR Project No. R8077 2002-4, p. 65.

[76] *Ibid*.

[77] *Ibid*.

[78] *Ibid*, p. 66.

[79] *Ibid.*

[80] *Ibid*.

[81] Catherine Riungu (2009), "Now Kenya's flower shrinks 33% after a 20-year bloom", *The East African* (September 29 2009), Available at: <http://www.theeastafrican.co.ke/news/-/2558/660718/-/qyeq6uz/-/index.html> (Last visited: 1 June 2011)

The following few lines (from a resident in the Lake Naivasha region) shows the magnitude of the concern:

> "Isaac Ouma Oloo remembers Kenya's Lake Naivasha as pristine, its waters sustaining an abundance of fish, lions, antelope, leopards, hippopotamuses, and birds. But the overuse of water and environmental destruction caused by international flower farms have fouled his memories of the lake.
>
> "Kenya is a begging country," he says. "We're among the top on the list of the World Food Programme for food donations, even though in Naivasha we have a freshwater lake that would allow us to grow food to feed ourselves. Yet we take this water to grow flowers and then ship them 5,000 miles to Europe so that people can say 'I love you, darling' and then throw them away three days later. To me that is an immoral act." (Ouma Oloo, Isaac. Personal interview. Activist and ecological safari guide. Aug. 30, 2007) [Source: Lake Naivasha, Withering under the Assault of International Flower Vendors", *infra* note 83].

[82] 2007, Maude Barlow, National Chairperson of the Council of Canadians and President of the Food & Water Watch Board of Directors, Canada.

[83] Lake Naivasha (2008), *Withering under the Assault of International Flower Vendors*, Food & Water Watch and the Council of Canadians, p. 1.

[84] The response of farms in this regard is that drip irrigation avoids waste and that efficient irrigation is to their advantage because it is cost effective.

[85] Tenenbaum, *supra* note 61.

[86] Lake Naivasha (2008), *supra* note 83, p. 2.

[87] B-Fair Project, <http://www.b-fair.net/?p=1922> (Last visited: 1 June 2011).

[88] *Ibid*.

> "In 2009 the industry had a wake-up call. The lake, on which the flower farms depend for irrigation, shrank dramatically after a prolonged drought, putting the whole business under threat. A flash storm then washed untreated sewage from Naivasha town and, it is suspected, chemical residues from some of the farms into the lake, killing large numbers of fish. The population of the town has grown from about 6,000 people in the early 1980s to approximately 240,000, according to its mayor, Paul Karanja, largely [due to] an influx of migrants drawn to the farms for work …" [B-Fair Project, *Ibid*].

[89] Water Act, 2002; No. 8 of 2002, Kenya, Section 32((1)(d)

[90] *Ibid*, Section 32(1)(h)

[91] *Ibid*, Section 32(1)(i)

[92] M. M. Mekonnen and A.Y. Hoekstra (2010), *Mitigating the Footprint of Export Cut Flowers from the Lake Naivasha Basin, Kenya* , UNESCO-IHE – Institute for Water Education (June 2010), Value of Water Research Series No. 45, page 12.

[93] Philippe Cullet (2009), *Water Law, Poverty and Development – Water Sector Reforms in India* (Oxford University Press), p. 2.

[94] "Waterway Protection Note" (2003), Government of Western Australia, Commission of Rivers and Lakes (May 2003), p. 1.

[95] *Ibid*.

[96] Hydroponics is a system of flower production that grows flowers in on mineral nutrient solutions and water without soil.

[97] "Waterway Protection Note", *supra* note 94.

[98] Water Act 2007, Act No. 137 of 2007 as amended, Australia.

[99] "Annually, 5% of Kenyan income goes to methyl bromide importation alone (Fedha, 2009). This Methyl bromide is so toxic that it kills all soil borne pests and developing countries have agreed to end its use by 2015 (FAO, 2002). Kenya imports around 95% of these pesticides. What is disturbing is that Kenya uses 5% of its foreign exchange earnings to import this harmful substance. Most of the pesticides sold in the Kenya market are not registered with the Kenyan government (PAN UK2006a) so many peoples' health had been affected by the illegal trade. However, the Kenyan Flower Council (KFC) was formed with a Code of Practice to address the issue (PAN UK, 2006b)." [Abu Kargbo *et al*, *supra* note 47, p. 7406.]

[100] Gilles Grolleau, Lisette Ibanez & Naoufel Mzoughi (2007), "Industrialists hand in hand with environmentalists: how eco-labelling schemes can help firms to raise rivals' costs" *European Journal of Law & Economics*, p. 221.

[101] *Ibid*, p. 233.

[102] *Ibid*.

[103] "For credibility reasons, some argued that the compliance with eco-label criteria has to be achieved by German experts. "Despite the good intention of some of these pressure groups, the accusing studies and documents take isolated and not necessarily verified cases as being representative of Colombia's flower-growing industry" (WTO 1998). Verbruggen et al. (1995) concluded that "*eco-labelling reflects an offensive manoeuvre by an industry facing fierce competitive pressures"* (emphasis added). Grote (1999) supports a similar position by stressing the dominant role of domestic players and the use of European eco-labeling schemes to "serve the sector's own objectives of improving its competitive position". [Source: Grolleau *et al*, *supra* note 100, p. 233).

[104] "Green Flower" in Spanish.

[105] Florverde, Standard Version 5.1, December 2007 (Updated June 2008), p. 4.

[106] *Ibid*.

- "*Workers' welfare*: establish criteria fora comprehensive management of human resources, with a view to guaranteeing the health of workers, a work climate that respects individuals and promoting their welfare within the workplace while extending it to their families."
- "*Environmental protection***:** establish criteria for the production of ornamentals with minimum environmental impact, through the application of best farming practices to ensure floriculture is tuned in to its environment."
- "*Handling and care of the product*: establish criteria for the handling and care of the product to ensure high quality and guarantee that a product certified by Florverde is separated from products which are not certified."
- "*Managerial responsibility*: promote the commitment from managers to continuous improvement, as well as the development and implementation of the program's management system".

[107] *Ibid*.

[108] *Florverde*, Participant producers and bouquet-makers"Florverde - Participant Companies, May, 2011

[109] "*Florverde*, Producers and bouquet-makers with certified products", Companies with Florverde Certified Products, v. 5,1 approved by GLOBALG.A.P., May 2011.

[110] < http://www.expoflores.com/buyers/eng/expoflores/index.php> Last visited: 29 May 2011

[111] Korovkin and Sanmiguel-Valderrama *supra* note 14, p. 128.

[112] *Ibid*.

7

Ethiopian Floriculture: Profile, Value Chain and Competitiveness

The Ethiopian flower industry operates within the buyer-driven global value chain discussed in Chapter 5. Moreover, it shares various opportunities and challenges highlighted in Chapter 6 in relation with three major flower exporting countries in Latin America and Africa. Ethiopia's favourable climate for flower growing, low labour cost, relatively easy access to land and the various investment incentives are believed to have encouraged investment in the sector. The incentives[1] provided to Ethiopia's flower industry include a substantial amount of special loan for investors "through the Development Bank of Ethiopia."

Moreover, the investment law "guarantees capital repatriation and remittance of dividends", and provides guarantee to investment. The package of specific investment incentives that are available to both domestic and foreign investors are embodied in Regulation No.84/2003. They include customs duty exemption, income tax exemption [for five years, which can be extended under exceptional circumstances], loss carry forward, remittance of fund, land availability for investment on leasehold basis and providing infrastructure for utilities such as electricity, telephone, water and road.[2] This chapter highlights the profile of Ethiopia's flower sector (including export performance, job creation, flower export profile), the sector's supply, production, air transport and marketing chain, the challenges and opportunities in the competiveness of the sector and the current pursuits towards codes of practice.

7.1. Profile of Flower Farms, Export Performance and Job Creation

As highlighted in Chapter 1 (Section 1.3.9), only five farms were engaged in flower export in 2003. The Ethiopian flower industry took off in 2005 and there has been a significant increase in the years that followed. The total value of Ethiopia's cut flower export was US$ 1.9 million in 2004 and it has been steadily rising. It reached US $68.8 million and US $159.2 million in 2007 and 2010, respectively.

Table 4 Ethiopia's Flower Export, 2004- 2010
Source of data: United Nations Commodity Trade Statistics Database | Statistics Division

Period	Trade Value (Total)	Net Weight (kg) (Total)	Netherlands (Trade Value)	Germany (Trade Value
2010	$159,182,877	37,344,232	$143,328,255	$4,150,588
2009	$131,439,631	31,558,610	$118,160,170	$5,598,100
2008	$104,732,981	24,539,793	$92,372,450	$3,938,956
2007	$68,815,958	17,292,900	$56,848,629	$4,059,199
2006	$25,039,031	8,632,136	$16,444,016	$3,315,515
2005	$12,081,998	4,278,702	$5,268,051	$4,019,522
2004	$1,907,175	799,867	$562,334	$915,405

In 2010, the largest importer of Ethiopian flower was the Netherlands which imported US$ 143.3, i.e. about 90% of the total export value, i.e. USD 159.2 million. The second largest importer during the same year was Germany with export values of USD 4.2 million. The gap in the volume and trade value of exports to the Netherlands and other countries is thus apparent. The following table shows the total value Ethiopia's flower export from the fiscal years 2006/2007 to 2009/2010. The fiscal year in Ethiopia covers the period from 8 July to 7 July.

Table 5: Ethiopia's Flower Export (2006/07 to 2009/10) by Destination

Country	Value in Millions of USD							
	2006/07	Percent Share	2007/08	Percent Share	2008/09	Percent Share	2009/10	Percent Share
Netherlands	38.27	60.16	85.08	76.13	106.19	81.25	143.27	84.18
Germany	14.05	22.09	12.28	10.99	12.56	9.61	12.94	7.60
USA	2.49	3.91	3.56	3.19	3.39	2.59	1.62	0.95
UK	2.51	3.95	2.42	2.17	0.85	0.65	0.79	0.46
Others	6.29	9.89	8.42	7.53	7.7	5.89	11.57	6.80
Total	63.61	100.00	111.76	100.00	130.69	100.00	170.19	100.00

Source: National Bank of Ethiopia

Within a span of few years Ethiopia's flower industry has shown a significant presence in Europe's flower market. Ethiopia accounted for 10% of EU's cut flower imports in 2008, both in volume and value.[3] "It has experienced rapid growth in cut flower exports destined for the EU in recent years".[4] In terms of total export to the world market Ethiopia was the fourth largest exporter among African countries in 2005, and has acquired the third place ranking after Kenya and Zimbabwe since 2006. [5]

The flower varieties that are grown in Ethiopia's flower farms are mainly rose flowers and summer flowers, and a few farms have specialized in cuttings.[6] Roses account for 80 percent of Ethiopia's flower exports".[7] "The average farm size is between 3.5–10 ha, with few larger producers [that have a wider] area under cultivation".[8] Most farms grow only roses in multiple varieties.[9] "Most farmers grow their roses on soil, but a few rose growers have started to use hydroponics as growing medium".[10]

The June 2011 data shows that 82 flower farms are operational out of which 47 are foreign owned, 8 joint ventures and 27 domestic owned.[11] The total land area that is developed is 1,309.2 hectares out of 3319.9 hectares that is allocated for flower growing.

Table 6: Total landholding of flower farms in Ethiopia and developed land till June 2011

Description	Number of flower farms that are operational, June 2011	Total land holding in hectares	Developed till June 2011
Domestic	27	843 ha	256.7 ha
Foreign owned	47	2228.9 ha	946.5 ha
Joint venture	8	248 ha	106 ha
Total	**82**	**3319.9 ha**	**1309.2 ha**

As the table above indicates, the land in use by foreign owned flower farms (946.5 hectares) accounts for 72.3% of the total area of land developed for flower growing (1309.2 hectares), while domestic owned farms and jointly owned flower farms respectively constitute 19.6% and 8.1% respectively. The mean distance of the flower growers from Addis Ababa is 512 kilometres.[12] This is owing to the need for proximity to "Addis Ababa International Airport, the only cargo outlet to export markets".[13] Most flower farms are located in Holeta (26 farms), Sebeta (20 farms), Debrezeit (14 farms) and Ziway (6 farms). Bahir Dar and Koka have four farms each, Sululta (3 farms), Awash and Hawassa two farms each and there is one flower farm in Debrebirhan (See Annex 2). In terms of total land developed until June 2011, clusters in Ziway area cover 354 hectares while the areas of land developed until the same period in Holeta, Sebeta and DebreZeit clusters are 305.2 ha, 262.5 ha and 171.1 hectares respectively.

Even if the number of farms in Ziway area are only six, the area of land developed by Sher Ethiopia is 216 hectares thereby rendering Ziway the biggest cluster in terms of area of

cultivation. Blen Flower farm at Ziway is currently part of Sher Ethiopia[14] thereby raising the figure to 224 hectares. Moreover, Sher Ethiopia has leased green houses (and a total area of 130 hectares) to four flower farms, namely, AQ Roses, Braam Flowers, Herburg Rose and Ziway Roses. This area of 354 hectares under Sher Ethiopia and the farms that have leased greenhouses from Sher can, for example, be compared with the total area (of 256.7 hectares) developed by all (twenty seven) domestic owned flower farms (in all the clusters) operational in June 2011. The following table shows the steady increase in the volume of production (in stems) and the value per stem in USD in the flower exported by Sher Ethiopia.

Table 7: Volume and Value of Export by Sher Ethiopia between the Fiscal Year 2001 Eth. Cal (2008/2009) to Fiscal Year 2003 (2010/11)

Budget year Eth. Calendar	Period	Quantity (Stems)	Value (USD)
2001	July 8 2008 – July 7 2009	29,959,499	3,028,183
2002	July 8 2009 – July 7 2010	332,634,992	34,853,881.89
2003	July 8 2010 – July 7 2011	455,564,377	46,545,188.422
2004 (9 months)	July 8 2011 – April 8 2011	414,839,864	40,331,479.246

During the 2003 Ethiopian Calendar Budget Year (July 8 2010 to July 7 2011) the volume and value of export of the four farms at Ziway that have subleased land and greenhouses from Sher Ethiopia was the following:

Table 8: Export volume and value by four farms at Ziway between the Fiscal Year 2003 Eth. Cal. (2010/11)

Flower Farm	Ownership	Area of land sub-leased from Sher Ethiopia	Export Quantity (Stems)	Export Value (USD)
AQ Rosses	Holland	40 hectares	96,499,448	5,451,003.9946
Bram Flowers	Holland	10 hectares	13,424,149	2,445,243.6623
Herburg Rose	Holland	40 hectares	92,537,885	10,872,488.3489
Ziway Rose	Holland	40 hectares	88,896,838	10,090,956.4043
Total		**130 hectares**	**291,358,320**	**28,859,692.4101**

The value of flower export from Sher Ethiopia (USD 46,545,188.42), Blen Flower Farm (USD 1,172,685.07) and the four farms that have leased greenhouses from Sher USD (28,859,692.41) in the aggregate (USD 76,577,565.9) account for 45% of the export value (i.e. USD 171,174,086 stated in Annex 9) for the Budget Year 2010/11.

The creation of job opportunities is one of the advantages of flower farms. During the Fiscal Years 2008/09, 2009/10 and 2010/11, the number of permanent workers has respectively increased to about 31,000, 33,000 and 35,000 respectively, and the industry employs "mostly women (80%) employed on temporary basis (80%)".[15] The sector creates job opportunities "for 25-30 workers per hectare of greenhouses. The lowest can be taken for the low seasons and the maximum for high seasons. The number of administrative and technical staff is small, and its percentage to farm workers becomes lower in economy of scale".[16]

W/ro (Mrs.) Tshehay Kebede,[17] Head of Union Organizing and Public Relation Department at the Confederation of Ethiopian Trade Union, states that the sector has created job opportunities although there is the tendency of workers to seek other opportunities due to the low wage in the sector. She also notes the need to improve labour conditions and believes that the introduction of certification standards and codes of practice is a positive development.

7.2. Overview of the Supply and Production Chains

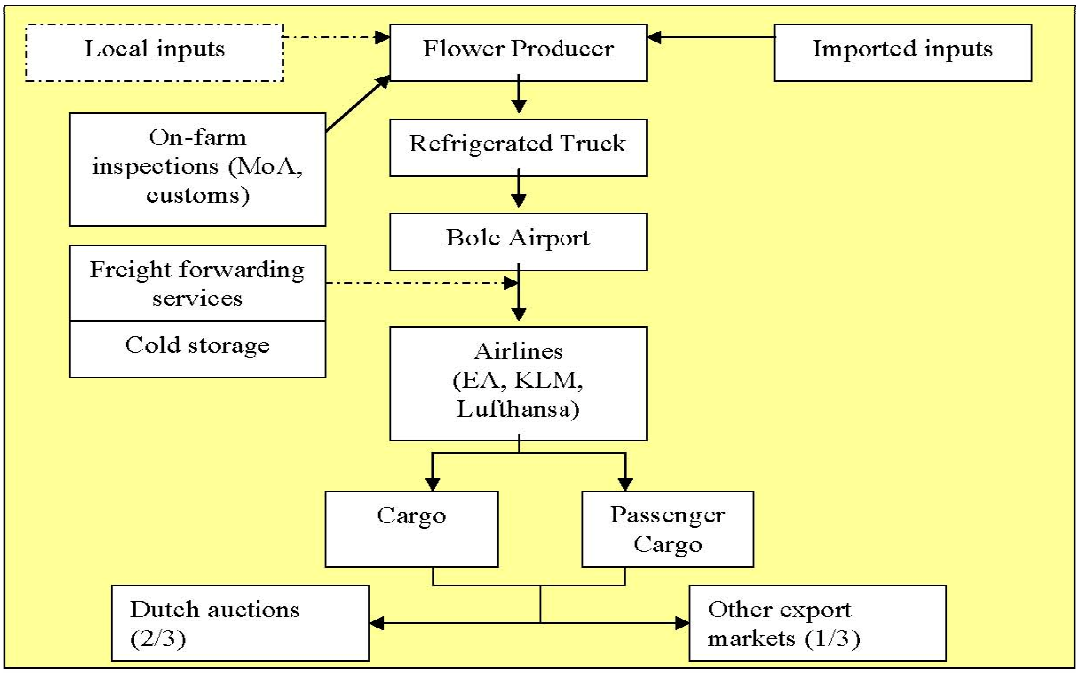
7.2.1. Inputs and the production chain

After the initial investment in construction and flower plantation, periodic inputs include fertilizers, chemicals, and packaging materials as "[t]he main inputs used in rose farming and post-harvest handling operations".[18] Most farms buy these inputs from local importers while some directly import them. However, there are positive developments in packaging material because it is now being locally produced in spite of some concerns regarding competitive quality which is expected to be steadily improved.

The production chain involves "three major stages: rose farming, post-harvest handling, and marketing and delivery to market"; and depending on the "variety, type of farming, and altitude," rose production generally has harvest cycles "that should be matched with optimal timing of the demand for roses in international markets".[19] The study by *Global Development Solutions* considers the supply chain in Ethiopia's flower industry as sufficiently efficient and competitive. The study states that "royalty fees associated with different rose varieties is the most significant cost associated with service provisioning during the farming and post-harvest handling of roses".

When all costs associated with farming and post-harvest handling stages of rose production are considered, the cost of royalty payments to international breeders (US$0.012/stem) constitutes 21% of the ex-farm rose production costs (US$0.08/stem); i.e. excluding all post-farm freight and marketing costs for delivering roses to the export market. ... All of the rose and cut flower breeds come from abroad, mainly from Israel, Kenya, and the Netherlands.[20]

Figure 3: Ethiopian Floriculture Supply Chain



Source: Frank Joosten (2007) *Development Strategy for the Export-Oriented Horticulture in Ethiopia*, Wageningen UR, page 29

The following tables from the study by *Global Development Solutions* show the export and ex-farm cost and profit margin structure in Ethiopian roses:

Table 9: Cost of Services in the Ethiopian Export Roses, 2010

Sales Price Per Rose Stem (C&F Dutch Auction)	**US$**	**0.252**	**% Share**
Total Cost of Services	$	0.168	66.7%
Input Transport and Handling Charges**	$	0.001	0.4%
Production Related Services	$	0.017	6.8%
Rose Export Related Services	$	0.150	59.6%
Gross Profits	$	0.022	8.8%

Source: Global Development Solutions, *supra* note 68, Table 38, p. 54

**Excludes sea freight from import source to Djibouti

Table 10: **The Role of Services in the Ex-Farm Rose Production Cost, Ethiopia**

Production Cost Per Rose Stem*	$	0.080	% Share
Input Import Related Services	$	0.001	1.5%
Production Related Services	$	0.017	21.3%
Royalties	$	0.012	14.7%
Utilties	$	0.003	3.3%
Finance	$	0.002	2.8%
Other Services	$	0.000	0.5%

* Ex-works, includes labor, inputs and all other farming/post-harvest handling costs
Global Development Solutions, LLC

Source: Global Development Solutions, *supra* note 108, Table 40, p.56

Most flowers in Ethiopia are soil-grown under the impression that hydroponics involves more cost. However, the Report of the World Bank indicates that even if hydroponics involves more cost, yield per hectare is higher than soil-grown cultivation. Over the long run hydroponics is relatively more productive and efficient. Moreover, hydroponics is "viewed as a hedge against soil contamination that could easily wipe out a farm in a single season".[21]

> ... [T]the value chain analysis suggests that hydroponics farming itself represents a good opportunity for further improvement to the competitiveness of the cut flower sector. According to the value chain, the farming cost of production per hectare of roses grown under hydroponics conditions is estimated at … US$70,812. While this represents a higher per hectare cost of farming compared with soil growing, the benefits come in the form of higher per hectare yields of 1,960,000 marketable stems (after accounting for reported losses of 2%). As a result, per stem farming cost of hydroponics roses is US$0.0361, or 6% lower than the soil grown roses.[22]

This shows that per hectare production cost of hydroponics roses is higher than soil-grown roses, while the cost per stem is lower if roses are grown on hydroponics than on soil in addition to the environmental protection that hydroponics avails to soil. However, hydroponics farming is not yet being used in most Ethiopian farms. The challenges in this regard are discussed in chapter 8.

7.2.2. Mandatory national standards, voluntary standards and civic societies

In Ethiopia, the government organ in charge of product standards is the *Quality and Standards Authority of Ethiopia* (QSAE). It was established in 1970, and has undergone series of restructuring under various names. According to Proclamation No.102/1998 and its amendment, i.e. Proclamation No. 413/2004, QSAE is, *inter alia,* entrusted with the task of effectively promoting Quality Management Practices. QSAE has the functions of developing standards,

certification, metrology and testing. It is accountable to the Ministry of Science and Technology and has the Standards and Certification Council (with government-appointed members) as its top policy leadership. QSAE's core objectives include the provision of assistance "in the improvement of the quality of products and processes through the promotion and application of Ethiopian Standards" and the promotion and coordination of "standardization at all levels in the country.[23]

The specific mandatory codes of practice for flower farms are the ones that are issued by the Council of Ministers Regulation No. 207/2011 discussed earlier under Section 4.4.3. This regulation reinforces the voluntary codes of practice that was operational since 2007. The objectives of the Code of Practice that is issued by Ethiopian Horticulture Producer Exporters Association (EHPEA) include the implementation of sustainable schemes that can minimize adverse impact on the environment and the attainment of sustainable competitive position of the Ethiopian horticulture sector in the global market by ensuring the following:

- Long term economic viability of the sector;
- Sustainable and safe development and skills enhancement of labour force;
- Continuous and responsible management of the environment;
- Active contribution to the community in which (a flower farm operates); and
- Enhancement of consumer health and safety.[24]

The voluntary Code of Practice defines the minimum standard acceptable to EHPEA and its members. However, "standards for some individual buyers and those adopted by some farmers may exceed those described." It states that farmers shall "receive their EHPEA approval through independent verification from a verification body that is approved by EHPEA." The Code envisages three levels of requirements upon the achievement of which a flower farm can be entitled to one of the three tiers of certification, i.e. bronze, silver or gold level certification. The association has (as indicated in §7.6 below) further revised the Codes of Practice in March 2011.

In the realm of civil societies, the National Flower Alliance (NFA) was formed by "six civil society organizations (i.e. Forum for Environment, Organization for Social Justice in Ethiopia, Panos Ethiopia, Confederation of Ethiopian Trade Unions, Ethiopian Wildlife & Natural History Society, and Ethiopian Women Lawyers Association). It is chaired by the Forum for Environment (FfE) and aims at constructively working with stakeholders in the floriculture

sector with a view to contributing "to the sustainability, corporate social and ecological responsibility of the flower industry".[25]

7.3. Opportunities and Challenges in Air Transport

The post-harvesting phase in the floral chain includes transport to airport and air freight. "...[R]ose producers need to reach their markets in timely fashion" and "[t]ime-to-market is especially critical during peak holiday".[26] With regard to the post-harvesting cold chain and inland transport to the Airport, Ethiopia's flower exporters "have their own cooled processing and packing warehouse where the roses are prepared for transport after harvest" and "virtually all export growers also have their own refrigerated truck which is used".[27]

The next phase in the chain, i.e. airfreight is a major component in the cost structure, and "freight charges vary from time to time"[28] even if the variation is at a predictable range. In the farm-to-market value chain "air freight costs to destination markets and the handling/marketing fees and commissions in the end markets"[29] represent a significant bulk in the cost structure. The following is the summary of an in-depth interview made with Ato Gashaw Haile, Manager, Ethiopian Cargo Market Planning and Route Management[30] at Ethiopian Airlines. The framework of the interview involved the following:

a) Challenges and opportunities from two perspectives, i.e. from the perspectives of flower growers and Ethiopian Airlines;
b) Freight service deals directly with flower growers rather than intermediaries;
c) Other issues.

7.3.1. Opportunities and challenges from the perspective of flower farms

There is the demand for air freight services for flowers in Ethiopia particularly since 2005 and 2006. The availability of daily cargo flights of Ethiopian Airlines is an opportunity for flower farms. Initially Ethiopian Airlines did not have cold room for flowers. Now it has a computerized cold room. Gashaw states that the cargo that was inaugurated in May 2006 is an opportunity for flower transportation to export destinations.

Ethiopian Airlines not only offers air freight services to flower growers but also assists them in their efforts to diversify markets beyond Europe. The assistance includes free

transportation of flowers for exhibition, negotiating leases of exhibition booths for flower display at the exhibitions, and facilitating negotiations with agents. The efforts of Ethiopian Airlines also include involving partner airlines in the pursuit of facilitating the entry of Ethiopia's flower exports into new markets such as Japan and Moscow even where the Airlines does not have direct flights to these destinations. According to Gashaw, Ethiopian Airlines is also exploring the US market with due focus on the issue whether the disadvantage of distance can be offset by the longer shelf life of Ethiopian flowers as compared to the ones from Latin American flower exporters.

Gashaw notes the challenge in the impact of the global competition among flower exporters which contributes towards lowering price per stem. The other challenge lies in the periodic nature of the peak seasons in the export market such as Valentine, Mother's Day, etc. The farms, particularly the ones that rely on the auction markets, thus encounter problems of export markets during the low flower market seasons because they inevitably tend to enhance production for the peak seasons. This entails lowering prices during the low seasons, and it renders the development of distribution outlets expedient. At present most flower farms primarily rely on the auction markets. But there is the need to focus on the direct market and retailers. Or else, the challenges in market outlets can increase in proportion with rise in the global production of cut flowers and the delay in the economic recovery of flower importing economies.

Gashaw distinguishes between two aspects of perishability. The first is *physical perishability* as in the case of flowers. Secondly, there can be *economic perishability* when a product becomes susceptible to a steep decline in price due to passage of time even if the product is not physically perishable. Such exports which are physically or economically perishable require speedy transport, and air freight is inevitable for flower exports in the Ethiopian context.

7.3.2. Opportunities and challenges from the perspective of Ethiopian Airlines

The volume of flower cargo that is being exported from Ethiopia is advantageous to Ethiopian Airlines. During the initial years of flower exports, however, the air freight per stem was USD 0.85 per kg. No air operator enters into business with a loss. Yet Ethiopian Airlines had to bear a certain level of national responsibility and thus shouldered some risks. Ethiopian Airlines, according to Gashaw, bears national responsibility to facilitate the needs of flower growers and

the national interest at large in addition to the monetary benefits obtained from its air freight services. Northbound cargo services for flower exporters were mainly from Kenya and other countries such as Uganda. Profit motive was not the primary objective during the initial years because the prime objective of Ethiopian Airlines was to facilitate air transport to flower growers.

The air cargo network is export-driven. The core consideration in the work plan and market research of an air freight service provider is the export volume on specific dates and time. The success or challenge in cargo air transport not only depends upon the outbound volume of export but the extent to which the airline will be forced to have empty return flight owing to the gap between the demand for outbound and inbound cargo transport services. Ethiopian Airlines is thus addressing the challenge and risk of inadequate cargo in the return trip by schemes that can attract inbound markets.

Ethiopian Airlines is doing its utmost to cut down the adverse effects of low inbound demand during return flights. Gashaw notes the new route which Ethiopian Airlines has opened from Brussels to Khartoum. There are also efforts in tune with consignee driven markets such as reduced fares and incentives for major imports from Europe and attractive price offers for inbound cargo air transport of various imports (even where they are not physically or economically perishable).

7.3.3. Mutual challenges and risk factors

There are challenges due to inconsistent forecast and weather conditions. During cold weather, flowers may not bloom and flower exporters will skip certain days unlike the forecast and expectations of Ethiopian Airlines. This can affect the forecast for export cargo transportation. The weather conditions at the points of export destination may also adversely affect flights as in the case of the volcanic ashes that interrupted flight schedules. Moreover, there is a challenge in stabilizing the price levels for cargo transportation. This is a challenge for flower growers because a significant portion of the price they receive constitutes cost of air freight. This is also a problem to air freighters because economic sustainability largely depends upon the affordability and fairness of the price charged and its relative stability over a period of time.

Gashaw notes that the cost of sea freight, and not that of air freight, is considered in the price determination for flower per stem paid to flower growers, In other words, the price is determined as if it is being imported through sea freight. If air freight was considered in price determination, flower growers form Latin America and Africa would not have been competitive. The tension in this regard lies in the fact that the actual transportation is air freight while the price is determined by using sea freight as its threshold for transportation cost. If sea freight is used for transportation from African and Latin American countries, the shelf life of flowers will expire. Tomatoes, for example, can be exported through sea freight. Flower cargo transportation from countries such as Ethiopia, however, is not multimodal. Moreover, it requires consistent cool chain during both inland transportation and air transport.

Gashaw distinguishes between two types of risk that can affect the flower industry. The first category is *economic cycle risk* which can occur due to recession which adversely affects the purchasing power of the ultimate consumer. The economic impacts of natural disaster and political instability can also be factors in economic cycle risk. The second type of risk is *business cycle risk* that may occur on the supply side or demand side.

A typical example of *supply side risk* is the price of fuel which leads to increase in air freight cost. This is the common challenge for flower farms and Ethiopian Airlines. The margin of the increase may not totally be transferred to the client, but there will be a percentage of the increase that will inevitably be passed over to air freight price. Gashaw notes that cost of fuel constitutes 50 percent of the operating cost of air operators. Upon every rise in the price of fuel, both exporters and the air industry encounter problems and challenges.

Demand side risks involve directional imbalance. Flower exports target at developed countries. In all developed economies, there is a directional balance between outbound and inbound demands. Cargo that is exported is balanced by cargo that is imported and this reflects on the directional balance in the activities of air operators. However, Ethiopia's air freight import volume is not commensurate with the cargo space that is available during inbound cargo flights (corresponding to flower outbound cargo) because most imports use sea freight.

7.3.4. Direct freight service deals with flower growers

Gashaw states a recent measure undertaken by Ethiopian Airlines to minimize cost through direct service relationships with flower growers. Initially, the services were offered through charter arrangements. Three logistics companies were chartering flights after which they made deals with flower growers. The service process between flower growers and the air operator was carefully examined and the process that does not add value was eliminated and the mark-up that was gained by the logistics companies have been split up between flower growers and air operators. According to Gashaw, the deals in charter flights tend to benefit large scale exports and it was relatively onerous and disadvantageous to smaller flower growers, a problem which is rectified under the new scheme.

The charter arrangement with logistic companies was based on maximum capacity of the airplane (provided maximum volume does not exceed the cargo space). The charter service charge varied between about USD 139,000 to USD 179,000 depending upon the maximum capacity ranging from 85 to 107 tonnes (85,000 to 107,000 kilograms) of cargo volume. As of March 26th 2012, however, flower growers directly deal with Ethiopian Airlines. On the date of interview, the price range for airfreight services was as follows:

- 1 to 3,000 flower boxes (of 12 kg each) are charged USD 1.77 per kg;
- Flower boxes (of 12 kg each) 3001 and above are charged USD 1.76 per kg;
- Cash payment (rather than credit) is offered a reduction of 2 USD cents per kg.[31]

7.3.5. Airfreight charges and the issue of carbon emissions

There are other airlines that provide air freight services for Ethiopian flower growers. For example, Emirates Airlines provides flower cargo services to Japan and Moscow which are routes not handled by Ethiopian Airlines. Saudi Airlines also offers services to certain destinations. Gashaw points out the difficulty in comparing the price range of various airlines with Ethiopian Airlines. For example, main deck cargo is solely meant for cargo while lower deck air operations enable the flight to have passengers at the upper deck. Other airlines accept flower export cargo as long as it is profitable and this may render the services relatively cheaper but non-dependable in terms of predictability and regularity which are crucial in flower exports. Gashaw compares the fares with Kenya: The flower cargo transport services in Kenya are from

Airport to door (i.e to the buyer) and the rate is USD 2.09 per kg. The mark-up for the services from Airport to the recipient is USD 15 cents per kg. The Airport to Airport fare is thus USD 1.94 which is higher than the amount charged by Ethiopian Airlines.

The last issue raised during the interview was carbon emissions. Ato Gashaw notes that efforts are underway towards acquiring greener airplanes. Ethiopian Airlines will acquire Boeing 777 (Triple 7) in October 2012 and the second Triple 7 in November 2012.

7.4. Features of the Marketing Chain in Ethiopia's Flower Exports

The Ethiopian flower industry uses three modes of marketing, i.e. "auction, consignment and fixed", and about 70 percent of Ethiopian flowers are sold through auctions.[32] Under auction sales, "the flower picks up the highest price possible from the bidders at the market" while in the fixed price schemes, "the grower already knows the price and would get that amount, no matter what".[33] The least desired is consignment because "the price tends to get lower compared to an auction[34] and direct sales to retailers or wholesalers with fixed prices.

Under consignment sale, the flower grower, refereed to as the consignor, receives payment "from the proceeds of the sale" of the flowers, and the "consignee receives a fee or commission for making the sale". However, if the consignee does not sell the goods there is no obligation incurred by the consignee[35] subject to the obligations of prudence and diligence required under such transactions. The title of ownership thus remains with the consignor until the sale of the flowers, and in effect, risks are borne by the consignor until the flowers are sold.

The delivery of Ethiopia's cut flowers to foreign markets is mainly through the spot-market which is conducted in auction markets or through the direct markets such as supermarkets and retailers. Although various countries outside Europe are among the flower industry's export destinations, over 90% of Ethiopia's flower export (both in value and volume) is sent to seven European countries including the Netherlands.

> The first flower farms in Ethiopia exported their products mainly via the German wholesale company Florimex. As the number of growers increased, the Ethiopians diversified their sales to other European markets and the Middle East (Dubai). Over the past few years, the role of the Dutch auctions as market facilitator (for auction sales as

> well as direct supplies by contract) has strongly increased. It is estimated that about half of all flowers is currently exported via the two main Dutch import auctions (i.e. FloraHolland and Aalsmeer Flower Auction VBA). Both auctions now have a representative in Ethiopia. ...[36]

Although auction prices are volatile and relatively lower, other options of direct sales require variety of flowers, higher quality flowers, and established relations in the market chain. To date, "[v]ery few rose exporters have developed their own marketing or partnership arrangements in export markets".[37] In addition to the volatility of prices in the global value chain, the costs of airfreight and handling and fees for the services at auctions are among the major costs. The study for the World Bank by *Global Development Solutions* analyzes the cost structure of the marketing value chain in Ethiopia's flower export:

> … [F]or a sales price of US$0.25 per rose stem in a Dutch auction, services related to flower exports constitute almost 60% (US$0.15), of which:
>
> - Airfreight and handling services to the auction accounts for the largest share (64%) of the cost (US$0.1/stem);
> - Marketing and handling fees and commissions at the auction are the second most costly export related service (33%); and
> - Inland handling and transport of flowers using refrigerated trucks from farms to Addis Ababa Airport is the third largest export service (2%).[38]

There are complaints from Ethiopian flower growers regarding the returns they obtain from the Dutch market. Ato Tsegaye Abebe in this regard states that there can be problems in the flower market when "60 percent of export goes to a single destination" and he notes that one of the areas "where the local growers have been facing problems was a common market practice where all the cases and complaints should be taken to a court in Holland, no matter what happens".[39] This, is indeed inconvenient and expensive for Ethiopian flower farms because there is no consideration of Ethiopian Law.[40]

7.5. Competitive Advantages and Challenges in Ethiopia's Floriculture

The economic performance of Ethiopian flower farms highlighted at the beginning of this chapter and the supply, production, post-harvest, transportation and marketing tiers of Ethiopia's floral value chain briefly discussed in the preceding three sections show that the sector operates in the midst of various opportunities and challenges. As Ethiopia's flower industry competes with other flower exporters in the global flower market, further examination of the sector's opportunities and challenges within the framework of *competitiveness* becomes necessary.

7.5.1. Determinants of competitiveness and forces of competitive position

The competitiveness of a firm is its "ability to produce the right goods and services of the right quality, at the right price, at the right time".[41] The definition of the term 'right' in the phrases 'right goods' and 'right quality' may depend upon the producer's promises and customer's expectations, the purpose of the item or service, its price and time of delivery. The perception of 'right price' can be influenced not only by the utility of goods or services but also by various market forces such as demand and supply, regulatory schemes and other factors.[42]

Competitiveness involves "meeting customers' needs more efficiently and more effectively than other firms do".[43] The OECD defines competitiveness at the national level as "the degree to which it can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real income of its people over the long term".[44] The challenge lies in balancing factors such as quality, price and time in the context of competition with other producers or service providers.

The controlling elements that we observe in the definition of competitiveness are the propriety of goods or services, quality, price and time. In the context of floriculture, the first element (i.e, the *right goods* refers to the type of flower, stem size, etc) while the second element, i.e, *quality* refers to a multitude of consumer concerns including disease, agro-chemical residues, vase life, time of the opening of buds, etc.). A significant percentage of the ultimate customers of flowers also consider the social and environmental conditions under which flowers are produced. In the global flower market, the third and fourth elements of '*price*' and '*tim*e' are mainly determined by auctions and supermarkets because the value chain is buyer-driven.

The prosperity of a given economy is determined by its productivity "which is measured by the value of goods and services produced per unit of the nation's human, capital, and natural resources".[45]

> Productivity depends both on the value of a nation's products and services, measured by the prices they can command in open markets, and the efficiency with which these products can be produced. … Competitiveness, then, is measured by productivity.
>
> … Identifying the drivers of productivity (and ultimately prosperity) across countries is one of the oldest occupations of economic research. Theoretical models initially concentrated on the role of capital accumulation in economic growth. [Solow 1956.]. Over the last decades, they have focused increasingly on the role of knowledge. [Romer 1990; Lucas 1988; *see* also Warsh 2006.] [46]

According to Porter (1990)[47], the four core factors that determine *competitiveness* are:

a) The conditions of the factors of production "such as skilled labour and infrastructure which are necessary to compete in a given industry;"[48]
b) The nature and magnitude of "domestic demand for the industry's product or service;"
c) The extent to which internationally competitive supplies and related industries are present locally;
d) "The conditions in the nation governing the creation, organization and management of the companies and the nature of domestic rivalry."

These four determinant factors are in short (1) factor conditions, (2) demand conditions, (3) related and supporting industries, and (4) firm strategy, structure and rivalry.[49] Porter further states two supplementary factors namely chance (which may positively or negatively impact competitiveness) and the government's role in influencing the four core determinants. In the context of floriculture a typical example of chance can be flight interruption due to weather conditions, volcanic ashes etc. Porter's list of the determinant factors known as Porter Diamond marked a step forward from the notion of comparative advantage which gave emphasis to the elements in factors of production.

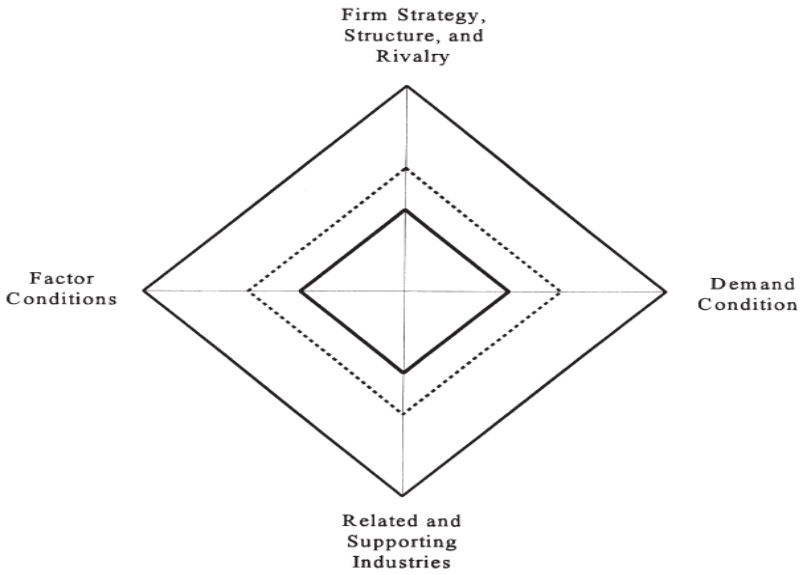
The four "home prerequisites" towards competitive advantage can be stated as:

- the level in the effective utilization of human and natural resources;
- the magnitude of domestic demand for the product or service which can lead to "the invitation to world class players to help develop these resources in country"; [50]

- the level of supplies in the country which is internationally competitive so that local industries will not incur costly supply value (SV); and
- an industry and environmental structure (the latter provided by Government) in order that these forces can thrive.

The gaps in Porter's Diamond have been subject to scrutiny. "For example, Bosch and Prooijen[51] have criticized the lack of attention given to the role of national culture in the Diamond model".[52] Davies and Ellis criticize Porter's national diamond model on the ground that it is based on certain assumptions that arise from US experience which may not be applicable to the realities of developing countries. According to Davies and Ellis, a nation may sustain prosperity without becoming 'innovation-driven' and there are many industries that are internationally competitive without a strong national diamond in their home bases. They also state that FDI inflows do not necessarily imply deficiency in 'competitiveness or lower level of national productivity.[53] However, Porter's Diamond is widely used in the analysis of competitiveness with some indigenization to the particular circumstances of the nation and the type of economic activity under consideration.

Figure 4: The Generalized Double Diamond Model



Source: Moon, Rugman, & Verbeke (1995 and 1998).
[N.B- Inner line: Home country Diamond
Dotted line: The Diamond with both national and international parameters
Outer line: International Diamond]

Various studies have substantiated Porter's Diamond so that it can fit to particular circumstances. According to Dunning[54] factors related with international competitiveness should be taken into account so that internal and external influences can be considered in Porter's competitive diamond. Postelnicu and Marilena note that Porter's Diamond does not consider the cross-border activities of MNEs and also state that the applicability of the Diamond irrespective of the size of the economy is problematic.[55] They thus use Moon *et al*'s[56] *Generalized Double Diamond* (indicated in Figure 4 above) to analyze competitiveness in the Romanian context with both domestic and international influences.

In addition to these determinants of competitiveness, Porter states five forces of competitive position.[57] In the following table, *Forces of Competitive Position* 1 and 2 are related with firm strategy, structure and rivalry while forces 3 and 4 are respectively related with demand conditions and supporting industries. The fifth force of competitive position noted by Porter seems to have affinity with the various determinant factors of competitiveness.

Forces of competitive position	Examples
1. Existing competitive rivalry between suppliers	• number and size of firms • industry size and trends • fixed variable cost bases • product/service ranges • differentiation, strategy
2. Threat of new market entrants	• entry ease/barriers • geographical factors • incumbents resistance • new entrant strategy • routes to market
3. Bargaining power of buyers	• buyer choice • buyers size/number • change cost/frequency • product/service importance • volumes, JIT scheduling
4. Power of suppliers	• brand reputation • geographical coverage • product/service level quality • relationships with customers • bidding processes/capabilities.
5. Threat of substitute products (including technology change); i.e. Production and technology development	• alternatives price/quality • market distribution changes • fashion and trends • legislative effects

7.5.2. Opportunities and challenges in the competitiveness of Ethiopia's flower farms

As noted in the report of the Embassy of Japan in Ethiopia in 2005, "[t]he sustainability of the floriculture industry in general is sometimes questioned. Some say that the floriculture industry hops from one place to another searching low-cost labor and leaving vast areas of depleted land behind".[58] However, the Report states the views of interviewees who "think that Ethiopia has a competitive advantage, i.e. not only a huge low-cost labor force but also the desirable climate for flowers and the availability of vast area of land".[59]

Ethiopia clearly has competitive advantages such as low-cost labour, favourable climatic conditions, inexpensive access to land, sustained government support and conducive tax and other incentives. However, the notion of competitiveness involves a host of other factors as well. The magnitude of competitiveness of Ethiopian floriculture can be examined in light of Porter's four pillars of competitiveness and by further examining competitiveness with supplementary reference to the *Generalized Double Diamond* suggested by Moon *et al*.

a) Factor (input) conditions

Porter's factor (or input) conditions include: "human resources, capital resources, physical infrastructure, administrative infrastructure, information infrastructure, natural resources, scientific and technological infrastructure". Observations during the field study, interviews and documents show that the flower farms have been able to employ unskilled labour at a wage rate that varies from Birr 360 to Birr 800 per month, i.e. about USD 21 to USD 45 at the current exchange rate of ETB 17.6 for USD 1 (for labour excluding experts and management). However, flower farming involves high-tech inputs, production processes and marketing due to which skilled human resources also become indispensable as one of the determinant factors of competitiveness.

Awareness about safe management of agrichemicals was very low during the initial years of most farms. During this period "each farm had to import agrichemicals individually because the mass import and resale of agrichemicals was restricted by law, and each farm had the responsibility to treat and dispose of the agrichemicals safely".[60] Although the Ministry of

Agriculture was required "to provide training on the safe management of agrichemicals for those farms" the level of implementation was not adequate.[61]

> Therefore, the farms rarely had any occasion to be informed about the banned chemicals, the disposal guidelines, and the tolerance for pesticide residues. The ban against the mass import of agrichemicals has been lifted and a private company can now import them in mass and resell them to an individual farm with the instructions on use, treatment and disposal. ... It is not clear how the treatment of agrichemicals has improved on the ground, but according to the Association … quality fertilizers and agro-chemicals, which are not expired [are supplied] that have brought about a change for the better.[62]

Aside from such problems with regard to skilled manpower, Ethiopian farms have a competitive advantage in the availability of land and the level of cost for unskilled labour. For example, high labour cost which accounts for one-third of total cost "constitutes a competitive disadvantage"[63] for Netherlands as compared to the labour cost in developing countries.

The second competitive advantage in factor (or input) conditions that Ethiopian flowers have is the favourable climate, abundant light and availability of land a very low rate of payment. For example, in one of the farms visited at Debrezeit, the leasing cost of the land is Birr 226, 000 per hectare (about USD 13,000 for the whole lease period of 50 years (i.e. about USD 260 per year at rate of exchange on the date of the interview).[64] The favourable climate in Ethiopia and other African and Latin American countries is clearly a competitive advantage as compared with countries such as the Netherlands and Israel.

In all the factor inputs other than labor cost and natural resources, Ethiopian flower farms do not have a competitive advantage because they do not excel their competitors in relation with the level of capital resources, physical infrastructure, administrative infrastructure, information infrastructure, and scientific and technological infrastructure. When we consider the factor inputs from the perspective of the *Generalized Double Diamond* which takes international parameters into account, the competitive weakness of Ethiopian flower farms in the domains of capital resources, scientific and technological infrastructure, etc. is ameliorated, *inter alia*, owing to FDI in foreign or jointly owned flower farms.

b) Demand conditions

As the field research indicates, the total volume of production of ET Highland Flora during the Fiscal Year 2010/2011 (i.e 8 July 2010- 7 July 2011) was 23,560,497 out of which 17, 115, 732 stems were exported. The number of stems sold in the local market were less than 39,000 during the same period, and this shows that negligible percentage of flowers were sold in the local market.[65] In many farms, the volume of local sale is far below this figure.

Yet, the Farm Manager of ET Highlands, for example, is optimistic and believes that the current tendency in the gradual increase of the local demand for flowers is encouraging.[66] Although the demand conditions for flowers in the Ethiopian local market is negligible, there is some encouraging development in the emerging practice of buying flowers for various occasions. The pace of increase in the local demand for flowers is determined by the rate of economic development, the rise in the real income of a significant portion of the population and the rate of increase in the culture of conveying various messages and wishes with flowers.

The demand conditions for flowers grown in Ethiopia can be examined based on the *Generalized Double Diamond* which takes the global flower market into account. The global demand for flowers has brought about a significant rise in the number of flower farms in Ethiopia particularly in 2005/2006. As highlighted in Chapter 5 (Section 5.1.1), the total world consumption of cut flowers increased from USD 12.5 Billion in 1985 to USD 31 Billion in 1995, and this figure was USD 40 to 50 billion during the booming years in the establishment of many flower farms in Ethiopia. Global demand conditions thus serve as impetus for the boom of flower farms thereby showing that the phenomenon was wholly foreign-market triggered.

The global flower market fills the gap created by the absence of local demand conditions, but it also enables one of the two supplementary factors in Porter's hypothesis of competitiveness, i.e. '*chance*' to play a crucial role in the magnitude of demand. A case in point is the recession that adversely affected the Ethiopian flower industry in 2008 and 2009. Chance is also significantly involved in price fluctuations at the auction markets. In an interview with Christian Science Monitor (in April 2009), the Farm Manager of ET Highlands stated the following regarding the adverse impact of the global recession in the market for Ethiopian flowers:

> We are not talking about falling profit this year, just survival …. Even Valentine's Day was down from last year. The problem is Europeans don't want flowers right now. The buyers in Amsterdam control the market, and they are setting prices very low – there is no minimum price for our stems. Every loss is on the growers' side: transport, water, electricity, wages, and even fees to the rose breeders.[67]

Aside from positive or negative impact of chance, there are two major factors that clearly influence global demand conditions for Ethiopian floriculture. The *first* factor relates to *demand and price trends* which accompany the seasonal peaks in the global flower market and months of low demand for flowers. Unlike food products, the global demand for cut flowers is not evenly distributed throughout the year. The product cycle of the flower stems in the farms visited is on the average about six to eight times a year. However, the stems in a given greenhouse become ready for harvest at staggered periods thereby enabling the farm to harvest flowers nearly every day.

The flower growers in the case study presented in Chapter 8 harvest flower stems in about 43 to 55 days (from the same plant whose plantation span may be five to seven years). The harvesting periods of the flowers are adjusted to correspond to the peak flower demand seasons so that the farm's optimal volume of production can benefit from these periods of the year. "Prices are at their lowest during the summer period when production in the 'northern' countries reaches its peak and highest in November and December".[68]

There is the general trend in the decline of price per stem in the global auction market while Ethiopia's aggregate export gross earning has steadily increased due to the increase in the volume of production. Dutch farms, for example, that produce "a wide range of products, including a number of specialized, highly priced flowers" benefit from high price per stem and this indicates the role played by long-term business relations and reputation in the markets for quality flowers. However, flower farms in most developing countries focus on mass production in certain types of flowers rather than flower varieties thereby rendering the fluctuating price trends in the auction markets inevitable.

The *second* factor that influences demand conditions in the world flower market is the increasing consciousness of customers about quality and variety of flowers. Quality can have various dimensions such as the requirement that flowers "should be free from plagues and

diseases and they should be undamaged".[69] These are elements that can be identified by visual inspection whereas other elements of quality such as post-harvest handling, the vase life of flowers and whether the buds will open are "difficult to establish on visual inspection" thereby rendering reputation important[70] in the conceptions of customers about the quality of flowers. Other quality aspects, however, are more difficult to judge. For instance, it is hard to see whether flowers have been correctly handled once cut. Yet this is an important determinant of vase life and whether or not the bud will open. Such consumer concerns render reputation very important and it enables growers who have consistently delivered high-quality produce to fetch higher prices than little known or irregular suppliers.

c) Related and supporting industries

This factor is the domain in which Ethiopian flower farms seem to have a competitive weakness. The field research of this study indicates that flower farms are dependent upon imported greenhouses, equipment, flower seed varieties, fertilizers and agrichemicals thereby rendering the production process dependent upon foreign suppliers and related industries. After the initial investment cost which is predominantly dependent upon imports, the cost of input supplies, as observed during the case study (stated in Chapter 8), amounts to about 20% of the price received per stem. At the current stage, the supply value (SV) is very high in the flower value chain. Countries that have entered into the flower industry earlier than Ethiopia clearly have better advantages in both horizontal and vertical integration in the flower value chain. The current effort of the flower farms to make use of forums such as the Ethiopian Horticulture Producer Exporters Association (EHPEA) is a good beginning towards the potential for clustering in various spheres for mutual benefit.

d) Context for firm strategy and rivalry

The policy framework in Ethiopia is highly supportive because the ease in the formation of flower farms and the incentives thereof, as highlighted in earlier chapters and the introduction of this chapter, include tax exemption for at least a period of five years (which can be extended to seven years under certain conditions of farm expansion), customs duty exemption for importing equipment and supplies and the incentives accorded through bank loan facilities.[71] The cost of production per unit stem is reduced as a result of these incentives thereby enhancing profits. The

risk in this regard is the potential for abuse because the value of equipment and supplies can be overstated owing to their exemption from taxes, and the productivity of soil-grown flowers may tend to decline some years after the five-year period of tax exemption.

There are challenges in the administration and technical management of these farms owing to the level of technical skills that are required in the efficient and effective operations and marketing management of the flower sector. The most difficult challenge for domestic owned flower farms as observed during the case study is the relative disadvantage they have in market niches in the supply and marketing chains. Moreover, economy of scale and the level of technology offer competitive benefits to bigger flower farms.

As the target customers of Ethiopia's flower farms are foreign markets, the issue of rivalry needs to be seen in the context of rivalry with flower growers throughout the world. At the domestic level, there is cooperation rather than competition among flower farms. The field research indicates that flower farms, for example, lend inputs to one another where delivery by suppliers is delayed and this clearly shows that the competition is at a wider global scale.

However, the global mass production inevitably renders the price per stem volatile. The following substantiates the impact of mass production of flowers on auction prices:

> It is a tough trade; cheap and high quality stems pour into the market from across Africa and Latin America, putting European buyers in the driving seat.
>
> Prices are set low in the knowledge [that] there is a surplus of supply from desperate growers, and farm owners have yet to build the capacity to trade directly with supermarkets – the major sale point for flowers.
>
> As a newcomer to the market, Ethiopia [can be] vulnerable to the price shock.[72]

As Liemt notes, the competition in the global flower market is fierce and it continuously tests "the adaptive capacity of the actors involved".[73] He further underlines that "the product is highly perishable" and "price fluctuations, including intra-day price fluctuations can be considerable".[74]

> Flexibility is thus important, but innovation, productivity and quality are also at a premium. Innovative producers can reap considerable rewards. New varieties fetch prices which can be up to seven times higher than those of 'bulk' products. Productivity increases are essential for survival. Flower prices have been stagnant for years (and have been declining in real terms).[75]

Subject to other variables including political stability, goodwill, marketing niche, etc, the rivalry in the global flower market not only involves price but also quality of flowers and time of delivery to the market. Competitive farms thus strike a balance between quality, price and the requirement of *just-in-time* delivery dictated by the buyer-driven global flower chain. This clearly shows that flower farms that benefit from efficiency-driven and innovation-driven economies (discussed in Section 3.1.1) have competitive advantages as opposed to mainly factor-driven mass cut-flower production.

Firm strategy in Ethiopian flower farms can be a competitive advantage or a competitive weakness depending upon the ownership and management of the farm. Owners of farms who joined the sector aspiring towards short-term profits have encountered difficulties and are unable to withstand the risks involved in the global flower market. The following statements of the Farm Manager of ET Highlands[76] illustrate the point:

> Most of the flower farms that are foreclosed are the ones whose owners and managers lack the understanding about the technical problems and processes involved in the production and marketing of cut flowers. There was much encouragement from the government through land allocation and bank loan facilities of up to 70 percent of the investment capital. Some owners of flower farms seemed to have failed to separately keep the accounts of their different firms. Integrating the management of different firms bears the risk of capital transfer from flower farms which should have been strictly used for the objective of the loan.

Emebet raised royalty for seed varieties as example because they can be paid at a relatively longer duration depending on the market strand. Unless such expenses are carefully considered, it becomes difficult to effect such payments when the creditors fasten their grips at some point which renders selling at auction markets impossible. Such transfer of capital also makes it impossible for mismanaged farms to sail through troubled waters such as the inability to export during the volcanic ashes in Europe, and to withstand shocks caused by extremely low prices and a steep decline in demand when recession in the Global North becomes severe.

Emebet contrasts such mismanagement with the *modus operandi* of the investors who know every aspect of the sector. She notes that most foreign investors think of the various phases in the flower growing industry in terms of three, four, five years and beyond. Moreover, they are not moved by temporary rise in prices and the difficulties involved. They take the general trend

into account and perceive the peak and low phases of the market as a package without losing focus on their strategic and short term expectations. Emebet underlines that this was lacking in the management of those farms that were foreclosed.

e) The Nine-Factor Competitiveness Model

The international context in Porter's model was incorporated by Rugman and D'Cruz (1998)[77] who introduced the Double Diamond Model that combined "the domestic diamond with that of a relevant economy, leading to a Double-Diamond".[78] This model has limitations, "as it can lead to multiple, not only double diamonds if more than one economy is relevant for the analysis".[79] The *Generalized Double-Diamond (GDD) model* introduced by Moon *et al.* (1998) aspires to address these concerns.

> This expanded and adjusted competitive advantage model has three major advantages compared with Porter's original model.[80] Firstly, it incorporates multinational firms, secondly, it is easier to operationalize and thirdly, government activities are seen as an endogenous variable. Still, drawing cluster and industry boundaries for the comparison remains a difficult task and the linkages are also not so easy to assess.

The model suggested by Cho and Moon[81] "proposed the integrated model of competitiveness [known as] '*The Nine-Factor model'*, which encompasses both physical and human factors" and that are "classified into four categories – subject, environment, resources and mechanism – by the roles they play to increase the level of competitiveness".[82] The model evaluates the competitiveness of a nation by taking three aspects of competitiveness into consideration, namely: physical, human, and external chance events.[83] Cho classifies "endowed resources, business environment, related and supporting industries, and domestic demand" as *physical factors*. He notes that *human factors* constitute the *second category* and this involves "diverse group of people with generally high levels of education, motivation and dedication".[84] Cho states that these groups of people include *workers* employed to carry out the economic activities, *politicians and bureaucrats* who are in charge of formulating and implementing policies, "*entrepreneurs* who make bold investments despite risks, and *professional managers* who are responsible for business management and *engineers* who constantly challenge new technologies".[85] And finally, Cho considers *chance* as the *third factor* (which is external to the physical and human factors) and he further highlights the comparison of this model with Porter's

Diamond:

> There is a similarity between Porter's model and the nine-factor model: four of the nine factors are identical: endowed resources, related and supporting industries, domestic demand and chance events; while one factor is similar in nature – strategy, structure and firm rivalry vs. business environment. The difference, however, is that the latter emphasizes human factors by separating workers from endowed resources, using the word politicians and bureaucrats instead of government, and identifying entrepreneurs, professional managers and engineers as uniquely independent components.[86]

With regard to *physical factors*, Cho notes that nations that are endowed with abundant resources that may be agricultural, forestry, fishery and environmental (land, weather, landscape, water, air, etc.) have the opportunity to take the lead, and he meanwhile states the relevance of *business environment* (at national, industry and company levels). Cho, further, underlines that *human factors* are crucial in mobilizing the physical factors and making use of the business environment towards the creation of competitiveness.[87] The human factors are also indispensable in the mitigation of the negative effects of chance and in the capacity to take optimal advantages.[88]

Examination of Ethiopia's floriculture based on *the Nine-factor Model* reveals various aspects of competitiveness and weakness. The physical factors of endowed resources and business environment seem to be largely favourable while the other two physical factors of domestic demand and related & supporting industries clearly put Ethiopian flower farms at a competitive weakness. With regard to human factors, Ethiopia's flower industry has competitive advantages with regard availability of workers and relatively low labour cost. The support of the government policies and bank facilities are also factors that enhance competitive advantages. The third element of human factors, i.e. entrepreneurship, seems to have mixed features among various flower farms while the satisfaction of the fourth element (professional managers, engineers, etc.) requires the level of skills and expertise commensurate with the technology involved in the flower industry. Needless-to-say, strengths and downsides in human factors mitigate or aggravate the adverse impact of chances, and they likewise optimize or diminish the benefits that can be accrued from chance events.

7.6. From the Initial Impression of 'Trade-off' towards Voluntary and Mandatory Codes of Practice

The boom in Ethiopia's flower sector coincided with the price peak for flowers in the world market around 2005. Many investors who joined the sector became over-optimistic about the economic returns in their undertakings. The business community regarded the flower sector as an opportunity with optimal returns per unit cost of investment. This impression was further enhanced by the interest of the government to attract investment in flower farms with a view to diversifying exports and augmenting foreign exchange earnings. The projects of investment in floriculture that were submitted to the Ethiopian regulatory bodies were so attractive that land lease[89] was easily made available at a very low rate. With regard to capital, the incentives, as highlighted earlier, include bank loans that can extend up to 70% of the investment cost. The exemption of customs duties for all imports and the income tax exemption for five years are indeed attractive. Moreover, the attraction of low labour cost is apparent.

These incentives clearly share a common factor, i.e. *reducing cost and enhancing profit*. This seems to have been the motive of most entrepreneurs (both foreign and domestic) who give prime attention to the '*race to the bottom*'. Under the Ethiopian situation, the rate of unemployment makes it possible to squeeze labour cost to the bare minimum. Moreover, the degree of attachment that the (lease holding) flower grower has with the land does not seem to have created the spirit of *bonus pater familias* (i.e. sense of responsibility as the good head of the family) in land and resource management. In the domain of natural resources, the underlying motive in many flower farms, particularly during the initial periods of their undertakings was optimal production and profit at lower cost including the cost involved in soil and water protection in the course of production and waste disposal.

Flowers are not edible food items, but are sought for pleasure, feeling good and as medium of expressing feelings on various occasions. In commercial flower growing, flowers not only play their natural roles of pollination in the reproduction of plants, but also have a triadic function in the lives of human beings. Their first function relates to the impact of the sight and smell of flowers on a person's deeper emotions of feeling good. The other dimensions of the triadic function of flowers lie in their unique role in connecting the feelings of human beings with one another and with nature at large. These elements in flowers inevitably render the process and

conditions of their production relevant to their ultimate buyers and consumers. This explains why, a significant number of stores in Europe, for example, "sell only fairly-traded products".[90]

Many flower farms have now realized that labour conditions and environmental compliance standards are not factors that can be 'traded-off' in pursuits toward larger profits mainly because the ultimate flower consumer's demand for social and environmental compliance standards is steadily rising. Moreover, the price decline in the world flower market due to recession and the rise in the supply of mass flower production without corresponding increase in effective demand for this perishable product have rendered the flower export market highly competitive.

The setbacks in the activities of many flower growers in Ethiopia were not caused by elevated production cost related to social and environmental standards but mainly due to the marketing chain. Many flower growers have thus realized that the playing field in the flower industry is very complex and that the producer takes the 'buyer's price' owing to the perishability of flowers. This is in contrast to the seller's conventional option to say 'take it or leave it' and this reality negates the initial assumptions of many flower farm growers.

As discussed in Chapter 4, Flower growers were not, at the outset, required to conduct Environmental Impact Assessment as a precondition to start their activities. Ultimately, however, the market has dictated the industry to observe codes of practices in social and environmental standards. The first ten flower farms received their certificate of code of practice for sustainable flower production in February 2009. The auditing was conducted for a period of a year. This was preceded by series of activities in accordance with the Code of Practice [91] which was officially launched in June 2007 based on EHPEA's [92] decision to implement a code of practice in 2006. The Standards are meant to implement good agricultural practices, the protection of the environment and respect for the welfare of its workers. According to Tsegaye Abebe, "the first auditing process was implemented in the interest of the farms" and he expressed his hope that the implementation of the Code "will be able to both protect and promote the image of Ethiopian flowers in the market and address the concerns of civil society about the impact of flower production on farms".[93]

In March 2011, EHPEA issued the revised version of its Code of Practice titled "Code of Practice for Sustainable Flower Production: *Including the Bronze, Silver and Gold levels"*. It states that the mission of the Ethiopian Horticulture Producer Exporters Association is "to

promote and safeguard the sustainable competitive position of the Ethiopian horticulture sector within the global market" and lists down ten means of achieving this objective.[94] Three of these specific objectives are the following:

- Developing, introducing and administering a Code of Practice that will guide members in the implementation of sustainable practices relating to Production Practices, and Corporate Social Responsibility;
- Facilitating the implementation of the Code by working with the Donor community and local service providers to ensure that all members have access to relevant training, technical advice and appropriate clean technologies;
- Implementing a system of Auditing for the Code that has international credibility and which will ensure that members get recognition for the implementation of sustainable production practices and corporate social responsibility on their Farms.

EHPEA's Code of Practice sets forth the thresholds of process and production which define the bronze, silver and gold levels of excellence and it further articulates the modes of monitoring and certification. According to Glenn Humphires, training coordinator at Ethiopian Horticulture Producer Exporters Association, 54 farms (which cover 80% of the production area) have so far obtained the bronze level of certification out of which 8 farms have attained the silver certification level. Two of these farms are under audit for silver certification and five farms are expected to be certified for the silver standard. She believes that one to four farms may attain the gold level of certification by the end of the year.[95]

It is laudable that EHPEA's Code of Practice (induced by buyers' expectations) emerged at a time when mandatory standards with particular reference to floriculture were non-existent. Yet, voluntary standards have limitations because their governance structures and level of enforcement is different from mandatory standards that are enshrined in laws and legally binding regulations. The issuance of the *Council of Ministers Regulation to Provide the Code of Practice of the Floriculture Sector* in June 2011 (i.e. Regulation No. 207/ 2011, discussed in Section 4.4.3) is thus a vital step in harnessing the erroneous initial conceptions of lowering social and environmental standards to save cost and enhance profit. However, its enforcement schemes ought to be put in place because there is delay in the issuance of the Directives that implement Regulation No. 207/2011 thereby creating gaps in the governance of Codes of Practice.

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Notes

[1] *Ministry of Trade & Industry* (Oct 2006) [in Joosten, *infra* note 6, p. 22].
[2] *Ibid*.
[3] Overseas Development Institute (2010), "The global financial crisis and developing countries, Phase 2 synthesis", (London, March 2010), p. 11.
[4] Footnote 12 [*ibid*] reads "It [i.e. Ethiopia's export] has the lowest unit value for both product categories [i.e. leguminous vegetables and cut flowers] compared with Kenya, Tanzania and Zambia."
[5] *Global Development Solution,* LLC from ITC/Comtrade data.
[6] Frank Joosten (2007), *Development Strategy for the Export-Oriented Horticulture in Ethiopia*, Wageningen UR, p. 12.
[7] Tsegaye Abebe, President of Ethiopian Horticulture Producers and Exporters Association (EHPEA), Interview with The Reporter (Saturday, 14 August 2010).
[8] *Ibid*.
[9] *Ibid*.
[10] *Ibid*.
[11] Data obtained from Ethiopian Horticulture Development Agency on 20 April 2012. (Computation and table by the author). See Annex 2.
[12] Global Development Solutions, ILC, "Towards a Globally Competitive Ethiopian Economy: The Role of Services and Urbanization. Case Studies – Rose and Polo Shirt Value Chains", (Prepared for the World Bank, 18 February 2011), p. 72.
[13] *Ibid*, p. 9.
[14] Interview with Dr. Glenn Humphires, Training Coordinator, Ethiopian Horticulture Producer Exporters Association, 26 June 2012.
[15] *Ibid*, p. 8.
[16] Interview with Dr. Glenn Glenn Humphires, *supra* note 14.
[17] Interview with Ms. Tshehay Kebede, Head of Union Organizing and Public Relation Department at the Confederation of Ethiopian Trade Union, 3 May 2012.
[18] Global Development Solutions, *supra* note 12, p. 54.
[19] *Ibid*, p. 55.
[20] *Ibid*, pp. 55, 56.
[21] World Bank (2006), "Developing Competitive Value Chains", Prepared for the Government of Ethiopia by the World Bank, June 28, 2006, p. 58.
[22] *Ibid*, p. 65.
[23] <http://www.iso.org/iso/about/iso_members/iso_member_body.htm?member_id=1725> (Retrieved: 2 April 2010).
[24] EHPEA Code of Practice for Sustainable Flower Production (2007).
[25] Joosten *supra* note 6, page 50.
[26] *Ibid*, p. 52.
[27] Joosten, *supra* note 6, p. 12.
[28] *Ibid*, p. 13.
[29] Global Development Solutions, *supra* note 12, p. 52.
[30] In-depth interview with Gashaw Haile, Manager, Ethiopian Cargo Market Planning and Route Management, 27 April 2012.
[31] The price of airfreight services for vegetables is USD 1.40-1.45 per kg. The price for flowers is higher due to its volume, the need for greater care in handling and the relative shorter shelf life of flowers.
[32] Tsegaye Abebe, Interview with The Reporter, *supra* note 7.
[33] *Ibid*.

[34] *Ibid*.
[35] Scott E. Blakeley and Thomas A. Johnson, <http://www.crfonline.org/orc/pdf/ref10.pdf>, Last accessed: 9 June 2011.
[36] Joosten, *supra* note 6, pp. 10,11.
[37] Global Development Solutions, *supra* note 12, p. 52.
[38] *Ibid*, p. 58.
[39] Tsegaye Abebe, Interview with The Reporter, *supra* note 7.
[40] *Ibid*.
[41] A Audronė Balkytė & Manuela Tvaronavičienė (2010), "Perception of competitiveness in the context of sustainable development: facets of 'Sustainable competitiveness' ", *Journal of Business Economics and Management* 11(2), p. 343.
[42] However, mere whims of a buyer to pay a certain price does not necessarily indicate the propriety of a given price as in the 'tulip bubble' that had occurred in the Netherlands when buyers were willing to sell their homes for a few stems of tulip flowers which can only last a few days.
[43] *"Competitiveness Helping Business to Win,"* Cm 2563, p 9 [in Timothy Edmonds (2000), Regional Competitiveness & the Role of the Knowledge Economy, *House of Commons Library*. *Research paper* 00/73, 27 July 2000 (London: Research Publications Office) p. 20.
[44] *Ibid*.
[45] Michael E. Porter *et al*, "Moving to a New Global Competitive Index", Global Competitive Report, 2008-2009, World Economic Forum, 2008, p. 44.
[46] *Ibid.*
[47] M. E. Porter (1990), *The Competitive Advantage of Nations* (New York: The Free Press).
[48] N.S.P. de Groot (1998), "Floriculture Worldwide, Trade and Consumption Patterns", *World Conference on Horticultural Research*, (International Society for Horticultural Science, 17-20 June 1998, Rome, Italy)
[49] *Ibid*.
[50] FAO, Global agricultural marketing management, Chapter 6- A Competitive Analysis and Strategy, <http://www.fao.org/docrep/W5973E/w5973e0a.htm>, Last visited 9 Sept. 2011.
[51] F. A. J. Bosch & A. Prooijen (1992), The Competitive Advantage of European Nations: The Impact of National Culture – a Missing Element in Porter's Analysis? *European Management Journal* 10(2): 176.
[52] Balkytė & Tvaronavičienė (2010), *supra* note 41, p. 348.
[53] Howard Davies & Paul Ellis (2000), "Porter's *Competitive Advantage Of Nations*: Time For The Final Judgement?" *Journal of Management Studies*, Vol. 37, Issue 8, pp. 1189-1214.
[54] J. H. Dunning (1992), "The Competitive Advantage of Countries and the Activities of Transnational Corporations", Transnational Corporations, 1: 135-168 [in Catalin Postelnicu & Irina Marilena Ban, *infra* note 55].
[55] Catalin Postelnicu & Irina Marilena Ban (2010), "Some Empirical Approaches of the Competitiveness' Diamond – The Case of Romanian Economy" , *The Romanian Economic Journal*, Year XIII, No. 36 (June 2010), pp. 53 ff-58.
[56] H. C. Moon, A. M. Rugman and A. Verbeke (1998), "A Generalized Double Diamond Approach to the Global Competitiveness of Korea and Singapore", International Business Review, 7: 135-150 [in Postelnicu & Ban, *Ibid*].
[57] <http://www.businessballs.com/portersfiveforcesofcompetition.htm> Accessed: 11 Sept. 2011.
[58] The Embassy of Japan in Ethiopia, *A Series of Studies in Industries in Ethiopia*, March 2008, p, 9.
[59] *Ibid*.
[60] *Ibid*, p. 5.
[61] *Ibid*.
[62] *Ibid*.

[63] Gijsbert van Liemt (2000), "The world cut flower industry: Trends and prospects", *Working papers*, International Labour Office, Geneva (International Labor Organization, 28 September 2000), Section 2
[64] ZK Flowers PLC, 11 August 2011.
[65] Farm visit and discussion with Emebet Tesfaye, Farm Manager of ET Highlands, 03 January 2012.
[66] Farm visit and discussion with Emebet Tesfaye, Farm Manager of ET Highlands, 17th Feb. 2011.
[67] Christian Science Monitor, May 10, 2009.
<http://www.csmonitor.com/2009/0510/p06s04-woaf.html>, Accessed: 30 Nov., 2010
[68] Liemt, *supra* note 63.
[69] *Ibid*.
[70] *Ibid*.
[71] There has been rescheduling of bank loan payment periods during the years of global recession which clearly affected the economic activities of flower farms.
[72] Aidan Jones, Christian Science Monitor, May 10, 2009.
<http://www.csmonitor.com/2009/0510/p06s04-woaf.html>, Accessed: 30 Nov., 2010.
[73] Liemt, *Ibid*, *supra* note 63 Section 4.
[74] *Ibid*.
[75] *Ibid*.
[76] Interview with Emebet Tesfaye, Farm Manager of ET Highlands, 03 January 2012.
[77] Rugman, A. M.; D'Cruz, J. R. 1998. The "Double Diamond" Model of International Competitiveness: The Canadian Experience, *Management International Review* 33(2): 17–39 [in A. Balkytė and M. Tvaronavičienė, *supra* note 41]
[78] Balkytė & Tvaronavičienė (2010), *supra* note 41, p. 349
[79] *Ibid*.
[80] Moon, H. C.; Rugman, A. M.; Verbeke, A. 1998, A Generalized Double Diamond Approach to the Global Competitiveness of Korea and Singapore, *International Business Review* 7(2): 148. [Cited in Balkytė & Tvaronavičienė, *Ibid*.]
[81] Dong-Sung Cho and Hwy-Chang Moon (2000). *From Adam Smith to Michael Porter: Evolution of Competitiveness Theory*. Korea: Asia-Pacific Business Series (Singapore: World Scientific Publishing).
[82] A. Balkytė and M. Tvaronavičienė, *supra* note 41, p. 349.
[83] Dong-Sung Cho (1998). "From National Competitiveness to Bloc and Global Competitiveness, From National Competitiveness to Bloc and Global Competitiveness," *Competitiveness Review* 8(1): 11–23.
[84] *Ibid*.
[85] *Ibid*.
[86] *Ibid*.
[87] *Ibid*.
[88] *Ibid*.
[89] Under Ethiopian law, land is publicly owned, and farmers can only have use rights. In the case of modern farms, land is assigned based on lease for a relatively long duration.
[90] VIDEA (Victoria International Development Education Association), "Fair Flowers, Fair Trade and Informed Consumers: Building on European Strategies for Public Engagement", December 2001, page 1 [N.B- 'Fair trade' in this context refers to the production chain.]
[91] EHPEA Code of Practice for sustainable flower production (2007), *supra* note 24.
[92] Ethiopian Horticulture Producers and Exporters Association.
[93] Tsegaye Abebe, cited in Capital Newspaper, Ethiopia, Vol. 13, No. 630, 02 March 2009.
[94] Code of Practice for Sustainable Flower Production *Including the Bronze, Silver and Gold levels* (*Version 2.0 Introduced March 2011).*
[95] Interview with Dr. Glenn Glenn Humphires, *supra* note 14.

8

Lessons from the Challenges and Good Practices in Ethiopia's Floriculture: Case Study

8.1 Methodology of the Case Study

The case study was conducted on randomly selected six flower farms which have within a short time (upon request) allowed access to the research. A form (Annex 1) was developed to facilitate the discussion during the in-depth interviews and discussion with the managers and/or experts at the farms. The following themes of the value chain were the key points of focus during the case study which involved observations and discussion:

a) supplies and inputs,
b) the production and post-harvest handling phases of the value chain,
c) airfreight,
d) the marketing tier of the value chain,
e) cost and profit margin structure in the value chain, and
f) opportunities and challenges in economic benefits, labour conditions and environmental compliance.

The flower farms studied were:

a) ET Highland Flora (Sebeta)
b) ZK Flowers PLC (DebreZeit)
c) Yassin Legesse Flower Farm (DebreZeit)
d) Bukito Agro Industry (DebreZeit), and
e) Euro Flora PLC (Holeta)

A sixth farm was visited as part of the case study but it has expressed its preference not to be mentioned in the study while the data gathered from the seventh farm (Rainbow Flowers) did not include farm visit. Visits were also made to the Head Office of Sher Ethiopia (Ziway). Moreover general discussion was made with a former employee of Dire Flower Farm (Holeta).

The case study at ET Highlands, ZK Flowers, Yassin Flowers and Bukito Agro Industry focused on the profile of the overall value chain in the flower farms (with particular focus on production) while the focus of the study was the marketing tier of the value chain during the field visit to Euroflora. The case study conducted in these farms is not meant to lead to generalization and does not arrive at inductive or deductive conclusions but merely targets at describing the results of the themes of the visit. Although there were common themes in all the visits, there was variation in thematic focus. Accordingly, the visit at Bukito Flowers primarily focused on the opportunities and challenges in hydroponics. And, the second round visit to ET Highlands focused on Integrated Pest Management (IPM) through predatory mites.

The case study was followed by document survey and in-depth discussion with the pertinent offices at the Development Bank of Ethiopia with particular anonymous reference to 18 (eighteen) flower farms under project distress out of which eight have fully recovered. This was meant to substantiate the observations made during the case study in the realms of opportunities, challenges and good practices. The approach used was thematic and the identity of the flower farms was not relevant during the in-depth interviews at the Development Bank of Ethiopia. This has enabled an extensive and open discussion on the farms under project distress. Flower farms that have never been under distress were also discussed.

The case study is informed by various concepts examined in this study and the comparative experience of other flower exporting developing countries. Even if the themes stated under the first paragraph of this section were the core points of focus during the case study, the interviewees were encouraged to discuss and explain rather than respond to regimented questions.

The interviews were conducted under a setting which enabled exchange of information with trust, ease and wider perspectives. For example, one of the managers of the flower farms admitted that the chemicals and pesticides will inevitably affect the soil. The example he mentioned was the inevitable decline in soil fertility, the pesticide treadmill and the risk that the land may not be fit for food production. The problem equally relates to waste disposal. In one of the farms, green waste was taken to a certain location of the compound so that it can dry up in open air. I was told that the green waste will be spread out and mixed with the ground by a bulldozer. The case study has thus benefitted from such observations. Health problems of

labourers such as allergy on their skin were observed in one of the farms. But we were informed by the farm manager that most workers will adjust to it and the allergy disappears.

The case study has benefited from the data of export gathered for the years 2005 to March 2012. Particular attention is given to the preceding Ethiopian fiscal year 2010/2011 (from 8 July 2010 to 7 July 2011). Analysis of the 2010/2011 data is used to examine the general profile of productivity per hectare and foreign exchange declarations per stem with comparative reference to modes of ownership: domestic, foreign and joint.

8.2. The Supply, Production and Marketing Value Chain: Case Study

8.2.1. ET Highland Flora[1]

The farm was established in 2005 by a Dutch and an Ethiopian with equal shares of 50%. At present, the farm is domestic owned. The total area of the farm is 23 hectares and it is located in Sabata, 30 Kms south west of Addis Ababa. There are 23 greenhouses that are used for flower growing. One of the greenhouses is used for breeding which is undertaken for a company that specializes in breeding. Moreover, there are premises used for packing and post-harvest tasks. Each greenhouse has 5,384 square meters, and the greenhouses cover a total area of 12.4 hectares. Four workers are assigned in each greenhouse, and a worker takes care of fifteen rows. The farm has 425 workers out of which 320 are permanent, and 105 temporary. 240 of the 320 permanent workers and 85 of the 105 workers are female. Banks have rescheduled the farm's loan repayment periods, and the government is supporting the flower industry. Initially the Farm manager, the production manager and key personnel were Dutch, Gradually Ethiopians have taken up the roles and this shows the benefits with regard to the transfer of technical and managerial skills.

a) Supplies and production

The seeds were initially brought from Holland. Once they are planted all that is needed is taking good care while harvesting the ripe stems; the same flower plant produces new branch stems possibly until seven years. The whole production is soil-grown. Hydroponics is considered by the farm manager as expensive. The farm manager notes the problems in waste disposal. During the second visit, on January 3rd 2012, there was a machine which grinds green waste so that they

can be easily composted. This is indeed a commendable development which can be scaled up in the farm to make sure that all waste is composted and safely disposed.

ET Highlands produces eight types of intermediate rose flowers namely aqua, bibi, duo, poem, tropical, valentine, viva and wild. It uses groundwater (80 meters deep). The level of temperature control of all the greenhouses is computerized; automated openings for ventilation are available when it gets too hot. The flowers that are ripe for market are cut with care after which the flowers are classified based on quality and size.

The classification in size is made in the categories of 40, 50 and 60 centimetres. Flower stems of the same size are sorted in bundles and the difference in size within the categories are trimmed so that their size becomes exactly 40, 50 and 60 centimetres. Based on the standards set by the farm, the flower stems are packed and kept in a refrigerated room. The farm manager stated the variation in the interests of buyers from Europe, Japan, Russia and others. The product is transported to Bole Airport by a refrigerated truck owned by the company.

b) Major challenges and core benefits

The farm manager recalls the problems in marketing in 2009 and 2010 due to the recession and interruption of flights caused by weather conditions. The major challenges underlined by the farm manager are unpredictable price fluctuation and interruption of air transportation. The following were the general manager's remarks regarding the adverse impact of the buyer-driven global value chain on Ethiopia's flower exports.

> It is difficult to consider flower farms as businesses. In business undertakings, the owner or the manager plans, determines its sales price and envisages the profit that the business can get. Flower farms are different. First, flowers are perishable. For example, if there is no air transport due to weather conditions, the whole product planned for the cargo will be wasted, as the local market for flowers is negligible. Because it cannot be stored, the entire bulk becomes a waste to be disposed. Secondly, the buyer determines the price.

The core benefits that are stated by the farm manager are: technology transfer, transfer of management skills, foreign exchange, and employment opportunities for dwellers of the community (as most jobs do not require education). She further notes that as most employees are women, these job opportunities empower women, and enable them to earn income for their households in addition to their income from rural farming.

8.2.2. ZK Flowers PLC[2]

The farm was established in 2006 by two British citizens one of whom is Ethiopian born. Currently it is owned by one of the founders who is Ethiopian by birth. The area of the farm is 22 hectares and is located 8 Kms South of Debrezeit on the road to Zeway. It is 53 Kms from Addis. Two greenhouses were visited. The first greenhouse (La belle flowers) is built on 1.6 hectares. Each bay (set of rows within the greenhouse) has six rows of flower plants. The second greenhouse is built on 1 hectare. Each bay has seven rows (granada). The number of production cycles per flower stem is on the average six times a year. The flower farm produces four types of roses, namely: la belle, belle rose, high & magic and granada.

a) Supply chain, water consumption, fertigation and challenges

The inputs needed by ZK Flowers, i.e., greenhouses, chemicals, pesticides, other investment inputs, seed varieties, etc. are imports. For example the greenhouse (for the granada flower is bought at USD 75,000 (Seventy five thousand). The seed royalty payment for the granada planted on one hectare is Euro 45,000 for the entire lifespan of the plant which can last from five to seven years depending upon the variety and the production conditions. The same amount is paid even if the life span of the flowers is shortened by downy mildew, agrobacteria, or other problems. Moreover, there is additional cost for breeding and propagation. The farm's client for propagation is Joy Tech (Debrezeit) which holds forty hectares, and conducts nursing and propagation as well.

Water consumption is about 6 litres per square meter per day, i.e. 60,000 litres per day for a hectare during the hot season. During cold weather, it usually needs lesser litres a day per meter square. Ground water is used in the farm. Water is available at 18 meters but the farm has dug up to 61 meters in the event of a drop in water tables. The fertigation room has six tankers. Water, chemicals, fertilizers and pesticides go through pipes and then to drip irrigation which is computer controlled.

ZK Flowers had incurred loss and was under severe financial difficulties due to downy mildew which destroys entire harvests. Humidity is conducive to the disease. It is a "disease of plants caused by fungi of the order Peronosporales and characterized by gray, velvety patches of spores on the lower surfaces of leaves".[3] The other problem is related with agrobacteria which is infectious and requires the elimination of infected stems and roots.

The flower farm is recovering. According to the farm manager, economy of scale is necessary because sustained economic viability seems to need about ten hectares of greenhouses. Variety, quality and trust from buyers are necessary. The farm manager believes that if there is trust and confidence, the clients elsewhere will have confidence to offer the highest bid when the flowers get to the auction market.

b) Social and environmental conditions

The farm has obtained the bronze certification level based on EHPEA's Code of Practice. The farm manager suggests that inspection visits should be made without notice to farms and there must be surprise visits to observe and monitor social and environment standards. Mere issuance of directives cannot be fully effective and reliable because the situations created during pre-scheduled visits cannot show the reality. The farm manager further notes that there must be a nurse and a clinic in each farm. He also stated the challenges in waste disposal.

In response to the question whether the option of hydroponics could have been preferable, the farm manager replied that it is expensive, and those who started with it are resorting to the soil medium. He underlined that the water drained from greenhouses should be treated before reuse and there should not be surface runoff. ZK Flower Farm, as the manager believes, has no option but use soil-grown farming. As Paliwala notes "high technology may be less expensive in developed countries whereas it demands a premium price in developing countries because of a range of factors including competition, lack of knowledge, higher cost of skilled personpower and other incidental issues".[4]

c) Marketing chain and profit margin percentage

The flower farm does not sell flowers in the local market. The farm has now developed a niche which has made it possible to have export market throughout the year. The amount earned by the farm per stem in on the average 10-12 Euro Cents. But a better quality of labelle gets about 20 Euro Cents per stem. The farm manager believes that granada can possibly earn 30 Euro Cents per stem. He notes that the ultimate consumer pays about 2 Euros per stem. The airfreight charge (on the date of the farm visit) was USD 1.72 per kilogramme. About 8 Euro Cents per stem (out of the 10 -12 Euro Cents), goes to airfreight.

The number of flower stems per kilogram varies depending upon the stem size, flower variety and the flower growing cluster. Relatively hot areas like Ziway grow smaller flower plants and each kilogram contains a greater number of stems as compared to other areas. Although direct markets offer fixed and stable prices, the farm manager of ZK flowers noted that there is a problem during the peak seasons because those who take their flowers to the auction markets get better prices than the ones in the direct markets. He also stated the risk that certain direct market clients may seek reduction of volume of delivery and fetch the minimum prices at the auctions during the low seasons. According to the farm manager, a farm in Ethiopia can find it difficult to oblige the other party because it will involve court litigation in a foreign venue which is more expensive than the amount the farm loses from reduction of the volume the client should have been willing to receive.

8.2.3. Yassin Legesse Flower Farm [5]

The owner of the farm is Ethiopian born US citizen. The farm produces seven varieties of flowers. The farm manager stated that the production of at least five colours is crucial in direct markets because the customers must be availed with a range of the fundamental colours in floriculture: orange, red, pink, white and yellow. Most of the greenhouses we visited are 1.6 hectares. One of them, however, is shorter in width but bigger in length. Such greenhouses, according to the farm manager, can have better ventilation if their width is narrower. The benefit of bigger green houses is their relative cost advantage for greenhouse construction per meter. Each bay is 9.6 meters long and there are poles in every bay at a distance of four meters. Each worker is responsible for two bays that have seven rows each.

a) Inputs, supplies and production

Most supplies are imported. This includes about 49,000 Euro as payment of royalty for the flower seed variety per hectare. The Intellectual Property owners are mostly from Holland, Germany and France. Initially, farms may use consultants who are foreigners. There is, however, the risk that some consultants recommend varieties while there could have been better varieties in marketability, pest resistance, etc. At the auction sales, the royalties are deducted. But the direct markets cannot be monitored by the royalty creditors and the royalties can be paid anytime during the plantation period of about 5 to 7 years. The length of the plantation period

can at times be two or three years where there is a problem of diseases (e.g. downy mildew) or agrobacteria.

Water consumption is 60,000 to 70,000 litres per day per hectare. It can be lower during the rainy season. The well is 100 meters deep. The farm has gone that deep to avoid shortages in case of drops in water levels.

b) Markets and cost-profit margin structure

Yassin Flower Farm exports to Dutch auction markets and German direct markets. The direct markets offer better prices that are fixed and reliable. During the peak seasons, the price at direct markets may be lower than the one at auction markets. But it is higher than the auction prices during the low and other seasons. Overall, therefore the farm prefers direct markets and does not raise prices during the peak seasons.

Most of the flowers are sold at auction markets. The clients of the farm in the German direct markets have required the fulfilment of MPS (the international certification standard stated earlier under § 5.4.3/c) within a specific timeline. They have expressly stated to the farm that they will not buy the flowers in the absence of these standards. The farm was (on the date of the farm visit) taking all the necessary measures to fulfil these standards. The following explains the factors that have led supermarkets in the direct sale strand to require higher social and environmental compliance standards.

> … Production conditions are a new dimension of quality. Consumers are increasingly concerned about the high level of toxic substances found in cut flowers, and about the poor treatment certain workers are said to receive in exporting countries. This has led to initiatives by traders and growers alike to provide consumers with a guarantee that the flowers they buy are 'clean'. The MPS-A and the Flower Label are cases in point.[6]

Like all farms, however, the cost and profit margin structure can make it difficult for the flower farm to elevate the social and environmental compliance standards as high as it wants to. Airfreight to Europe (on the date of the farm visit and interview) was USD 1.85 per kilogram. This rate involves air freight cost of about 5 Euro cents per stem. Labour and other production cost is about 3 Euro Cents per stem and chemicals and pesticides can cost about 3 Euro cents per stem.

c) Challenges

According to the farm manager of Yassin Flower farm, hydroponics may cause more harm to the environment if the water drained from the greenhouses (and loaded with chemicals and pesticides) is not treated before it is reused. Farms that use hydroponics should be monitored whether they treat and reuse the water. If this is done it is eco-friendly. He further noted the precautions that should be made in soil-grown floriculture. For example, biological control of pesticides by using predatory mites (that feed on spider mites) is very useful. But Yassin Flower farm has not yet introduced this scheme. It is initially expensive. But at a later stage it is beneficial because it reduces the cost of pesticides and it enhances environmental protection.

Another major challenge stated by the manager of Yassin Flower farm is related with the mobility of the labour force. Workers are attracted to sectors such as construction because of the higher pay. The daily wage for workers in the flower farms is around Birr 13.50 (USD 77 cents per day on the date of interview) whereas the rate at construction sites is double this amount from Birr 25 to 30.

We also saw the challenges in relation with agro-bacteria. Many rows in one of the greenhouses were highly infected by agro-bacteria. These plants will infect the others unless they are removed and substituted. The tools used in cutting the infected stems must be carefully cleaned because they transmit the bacteria to other plants. The farm manager underlined the lessons that must be learnt from the concerns in Kenya about the incidences of transmission of the bacteria to the holdings of smallholder farmers thereby infesting perennial agricultural plantations.

8.3. Challenges in Economic Performance and Causes of Project Distress

The economic performance of various flower farms has not been in conformity with their business plan and expected returns.[7] For example, five flower farms "located around Debre zeit and Addis Alem, were not successful in servicing their credit" and this led to bank foreclosures".[8] Aside from these and other farms which were foreclosed, many flower farms were unable to service their debts from the Development Bank of Ethiopia and sought rescheduling. Over six hundred Million Birr was allocated as loan to the flower industry based on the government's policy to encourage export products, and "[a]t least 42 flower farms took the credit from the Development Bank of Ethiopia (DBE)".[9] This figure only represents flower farms that have taken loan from the Development Bank of Ethiopia and not the ones that have taken loan from other banks. In 2008, the payment schedule of the Development Bank of Ethiopia "exerted too much pressure on the borrowers, leading many of them into crisis." Fortunately, however, the government's intervention in 2009 has enabled flower growers to "have additional three years to service their payment" because the fall of the flower market was mainly attributable to the world economic recession despite increased costs of raw materials.[10]

The variation between the list of flower farms posted at the website of Ethiopian Horticulture Producer Exporters Association in 2008 and the current list of operational flower farms in the records of Ethiopian Horticultural Development Agency (Annex 2) indicates the magnitude of project distress in the flower sector. In-depth interviews made with office holders and experts at the Development Bank of Ethiopia on March 26th, March 29th, April 3rd and April 12th 2012 reveal the various factors that have placed flower farms into project distress and that also determine the pace and extent of their recovery.

Before the in-depth interviews, however, research was conducted into the various reports of the Development Bank of Ethiopia on the flower industry. One of these reports states seven major success factors, i.e. factors at the national level: climate, proximity to the global market and efficiency in the transportation system, abundant and cheap labour, resources, security, credit facility, access to land and incentives.[11] The Report further states four project level success factors: professional management, adequate capital, land, and factors related to cost.[12] Two earlier reports include relatively similar major success factors and project level success factors.[13]

One of these reports further states the following four risk factors: "growing concerns regarding environmental and social issues", "high transport and marketing cost", "expensive imported capital goods and recurrent inputs", and "product innovation totally dependent upon few breeders".[14]

8.3.1. General factors in project distress

The interview with Ato Mekonnen Feyissa[15] (Head of Project Rehabilitation and Loan Recovery Department) on March 29th and April 3rd 2012 focused on the identification of factors for project distress in flower farms, i.e., the factors that enable certain farms to perform well and others to come under rehabilitation schemes. These factors are also relevant as determinants for the potential and pace of rehabilitation vis-à-vis the inevitability of foreclosures. The summary of the in-depth interview with Ato Mekonnen on April 3rd 2012 is highlighted below.

The major motive of the Development Bank of Ethiopia (DBE) is to facilitate the development pursuits of Ethiopia though enhancing the financial resources of various projects. The Bank thus gives more emphasis to the success of projects and their contribution to development rather than the bank interest gains and other benefits of banking services per se. The Development Bank of Ethiopia (i.e. the Head Office) is in charge of loan beyond Birr 15 million, and loans below this amount are handled by branch offices such as the Central Region.

When projects are in distress the Development Bank of Ethiopia (DBE) examines the reasons why they are 'sick', and this requires diagnosis. Initially there were 18 (eighteen) flower farms that were under distress. Eight of them have been rehabilitated and are functioning well. The Bank is currently dealing with the ten. There are farms that are foreclosed and there is the challenge in getting buyers. The diagnosis includes what went wrong and what went right? The prescription is based on the diagnosis. In principle, projects do not fail if they are carried out and managed based on valid business plan. There are problems on both fronts. A business plan my be defective, if for example there are problems such as choice of location or flower varieties which adversely impact upon performance. Equally important is the implementation of the business plan in accordance of the breakdown and details thereof.

Mekonnen classifies the factors that contribute to project distress in relation to Ethiopian flower farms. They are (a) external factors, (b) institutional and normative factors, and (c) farm-level factors. The external factors in project distress relate to factors such as the recession in

flower importing countries which had hit over 90% of the flower farms thereby necessitating rescheduling. With regard to the institutional and normative factor, awareness about the sector was inadequate when the number of projects and volume of investment capital in the flower sector significantly increased during the industry's years of take-off. The level of regulatory schemes was then inadequate. For example, there was no Agency specifically entrusted with the regulatory and supportive services until the Ethiopian Horticultural Development Agency[16] was established. The capacity of investment regulatory offices and banks in project appraisal was modest when the flower farms, during the initial years, submitted their projects for the purposes of investment permits, establishment and loan facilities. There was lack of realistic assessment. For example, there was no requirement for collaterals because the project itself was regarded as collateral for the loan.

At the level of flower farms, many domestic investors joined the sector without adequate knowledge and experience. On the other hand, there was the tendency on the part of many foreign investors to focus more on the benefits they can gain in return to their relatively negligible foreign capital. There was much encouragement from the policy environment such as loan up to 70% of the capital and land allocation. There was the risk that a portion of the proceeds from flower exports might not enter into Ethiopia. The National Bank of Ethiopia is now putting more stringent controlling schemes.

8.3.2. Specific factors in project distress

Further discussion on project distress and other issues was conducted with Ato Kedir Beshir, Expert, Project Rehabilitation and Loan Recovery. The themes of the discussion were (1) factors in project distress (2) factors that enhance recovery, and (3) the challenges observed by DBE in the supply chain, production chain, air freight and marketing. The following summarizes the themes of the in-depth interview with Ato Kedir Beshir:[17]

a) *Capital*

The size of cultivation is crucial. Size of cultivation of most farms was 3 to 5 hectares. Cultivation below about 10 hectares does not usually benefit from economy of scale. The inputs are expensive. Shortage of capital affects the supply of chemicals, pesticides and other inputs.

b) *Management and technical knowledge*

Skills in management, follow up, misappropriation of fund (by overstating prices of inputs, changes of proforma invoice, etc.) are factors that adversely affect the economic performance of a flower farm. In certain cases, there may be diversion of capital obtained from loan for economic activities (such as settling debts for activities) other than flower growing. The farms that are managed by the owners who have the skills and the ones established by persons with prior experience in the sector are successful. A farm was mentioned as an example in the excellent category according to the Bank's thresholds. It has its own propagation and it uses high technology. It is foreign owned, and it enhances its investment in technology, higher productivity and performance. It updates its operations and activities with recent research outputs.

Technical knowledge about varieties, inputs, etc. is crucial. Failure to identify the right varieties leads to project distress. There were times when flower varieties had to be changed in six months or so. Manpower was initially mainly foreign. The number of Ethiopians involved in management is increasing. There is the challenge of natural disasters, e.g. hail storm which can cause project distress. Such difficulties require crisis management and recovery towards which effective management and elevated technical skills are indispensable. Various farms could not meet the level of technological expertise and management while they were using hydroponics. The Bank has financed 47 flower farms and after getting into distress, about five farms have resorted back to soil-medium flower growing from hydroponics.

c) *Inadequate institutional preparedness*

It took some time for the National Bank of Ethiopia to effectively monitor export proceeds per stem. Even this is inadequate because it uses the same rate for all types of flower stems. Some clusters produce fewer stems per meter square and may obtain a higher price per stem. The rate should not have been uniform. There is also variation in sales in direct and auction markets, and at different times of sale in auction markets. If the average between the peak and low seasons is said to have been considered, different rates should apply to the different locations which produce different quality of flowers. The problem of inadequate institutional preparedness applies to the Development Bank of Ethiopia as well because the level of awareness about the various aspects of the sector was not adequately realized during the initial years.

d) *The challenges in supply, air freight and marketing*

Flower farms largely depend on imported supplies whose price is steadily rising. The same challenge of rising cost also applies to air freight. Ethiopian Airlines offers regular flights, but the cost of air freight is rising. Even if there are airlines that might offer airfreight services at a relatively lower price, their services are not available on a daily basis which is crucial in flower exports. Moreover, the recession in Europe, volcanic ashes and climate conditions that interrupt flights are factors that have adverse impact in marketing.

e) *Loan recovery schemes and enhanced awareness about the sector*

The original loan payment timeline was in June and July. This was problematic because it coincided with the low market seasons for flowers and it involved the annual amount expected to be paid to DBE from the flower farms. This has now been changed towards quarterly payments, and the DBE is involved in receiving export proceeds upon the consent of the farms and this has enabled the Bank to retain a certain percentage of the proceeds which may be up to 20% or 30% based on the amount of unpaid loan. Furthermore, employees of the bank are in the course of enhancing their knowledge about seed varieties, the direct and auction markets and other pertinent aspects in floriculture.

8.3.3. Schemes of recovery from project stress

According to Kedir Beshir, the following schemes have been effective in facilitating the recovery of flower farms that were under distress:

a) Rescheduling is one of the schemes used for recovery from distress.
b) New loan is encouraged so that the flower farms can go beyond at least seven hectares.
c) Monitoring is made on management skills and there is strict follow up including efforts to address the problems of competence in managing the flower farms under distress.
d) The Development Bank of Ethiopia was initially sceptical about the direct market under the belief that auction markets are more transparent. But such diversification is now encouraged.
e) Technical advice is given to flower farms in production and diversification of export destinations. For example, there is an encouraging trend towards diversification of export destinations such as the Middle East and other potential export markets.

8.4. Lessons from Good Practices and Challenges

The bigger picture with regard to the challenges in Ethiopia's floriculture involves issues such as the sustainability of the economic benefits, work conditions, the gendered aspect of the production chain, soil degradation, water resource depletion and others. Dealing with and resolving a challenge can transform it into an opportunity and the good practices observed in the case study are pursuits in this direction. Three good practices have been observed during the case study. The two good practices in the production strand are the efforts of ET Highlands to use predatory mites instead of chemicals to control spider mites. The second good practice relates to the use of hydroponics in flower growing. The third good practice refers to the positive impact of vertical integration between the production and marketing tiers of the value chain as was observed at Euroflora. These good practices are illustrative and the farms mentioned are not the only ones that are practicing them. For example, there are flower farms (such as Lafto Rose) that have better application and management of hydroponics than Bukito flower farm.[18]

The challenges that flower farms face in adopting the good practices in the production of cut flowers in the Ethiopian context mainly arises from the cost involved vis-à-vis the marginal share of flower growers from the financial returns of their product, and secondly from the mismatch between the technoscience involved in flower production and the technical and managerial skills that are available at the flower farms. The adverse impact of these challenges is further exacerbated by the gaps in governance as manifested in the inadequate implementation of the normative framework on compliance standards.

8.4.1. Efforts to Introduce Predatory Mites at ET Highlands Flora[19]

The requirements of the ultimate consumer of flowers in Europe and other export destinations are increasingly compelling flower growers to use "natural predator insects as opposed to chemicals to fight crop diseases. ... The practice, believed to be safer for the environment, workers and consumers, involves the biological control of pests and diseases".[20] Biological pest control through predatory insects allows flower growers to "save on costs otherwise incurred on soil and airborne infestation control, a move that lowers their cost of production".[21]

> Spider mites are a rose's Public Enemy Number One. ... [T]hey reproduce quickly and can kill a rose plant in a matter of days. Within a month, a single mature female spider mite can populate a greenhouse with a million offspring. ... Growing flowers on massive

scale is inherently unnatural. Floral monocultures attract more pests like spider mites in bulk than a variety of crops grown in the same parcel. [22]

These plant feeding spider mites (*tetranychus urticae*) are reproduced in a laboratory greenhouse under a setting which is very conducive for their propagation. The carnivorous variety of mites (*ambllyseius califonicus*) are then unleashed to feed on the 'bad' mites[23] and the sizable number of the latter enables the 'good' mites to be reproduced at a very big pace thereby enabling the flower farm to use them in its greenhouses.

About 60 percent of the cost allocated by ET Highlands for pesticides and chemicals was used to control spider mites. At present, the flower farm has introduced predatory mites that live by eating the spider mites. This renders the flower growing eco-friendly. Efforts are underway to produce the predatory mites in the farm rather than importing them from abroad. During the observation, I was (through a magnifying glass) shown mites on a leaf of a flower plant. We observed spider mites and two types of predatory mites. The predatory mites are known as:

a) Ambillicius californicus: They can stay for a longer period than the second type of predatory mites. They also find other organisms as their food and thus have more resilience;
b) Phytocellus persimillius: Their targets are spider mites. These predatory mites do not search others for food.

Chemical usage to control spider mites constituted 60 percent of the cost for chemicals during the initial years of the farm. 1000 litres were used in 2006/2007. The volume increased to about 1,220 litres in 2007/2008, after which it has shown a steady decline to 530 litres, 40 litres and 30 litres during the Fiscal Years 2008/2009, 2009/2010 and 20010/2011 respectively.[24] According to Dr. Glenn Humphires, there are about twelve flower farms that are in the course of introducing integrated pest management.[25]

8.4.2. Hydroponics at Bukito Agro Industry[26]

Bukito flower farm[27] is a domestic owned farm established in October 2006. It has four greenhouses of 1.2 hectares each. The types of flowers grown in the farm are *sonrisa*, *lovely jewel* and *candid prophita*. The farm sells its cut flowers to auction markets. As direct markets usually prefer the supply of flowers with five different colours (red, yellow, orange, white and pink), it seems to be difficult for Bukito to enter into the direct market in the short run.

The focus of the visit was to observe the usage of hydroponics in flower growing. This medium enables flower growing without using the soil medium thereby protecting the soil in the greenhouses from the adverse impact of chemicals, pesticides and fertilizers. The flowers at Bukito flower farm are grown on red volcanic ash that is put on a trough. The volcanic ash is fine at the top, medium at the middle and coarse at the bottom so that the relatively porous lower section can easily enable drainage at the appropriate pace.

a) Relative advantages and challenges of hydroponics

Hydroponics production involves more investment cost at the initial stage, but it enables more harvest of cut flowers because of the number of harvesting cycles. For example, the harvest (i.e. cut to cut cycle) of the flower known as *sonrisa* takes about 55 days at Yassin Farm (where it is soil grown) while it takes 43 to 45 days at Bukito Farm where hydroponics is used. Thus hydroponics gives more harvest. The second advantage of hydroponics relates to lesser vulnerability to downey mildew. The greenhouses with soil-grown flowers are susceptible to humidity during certain seasons and this is conducive for downey mildew. While other neighbouring farms were attacked by downey mildew, Bukito farm did not face the problem because there is lesser humidity in greenhouses which use hydroponics. Thirdly, the troughs or foils in hydroponic farms can easily be showered thereby lessening the risk of spider mites which find warm settings very conducive. However, the variety of the flower known as *lovely jewel* is more susceptible to powdery mildew. Agrobacteria in both soil grown and hydroponics grown flowers should be carefully handled so that it does not contaminate other flowers.

The fourth advantage of hydroponics relates to cost. Hydroponics involves relatively lesser cost in fertilizers because the water is recycled after treatment. Recycled water contains elements of fertilizers and, in effect, needs lesser fertilizer. Hydroponic flower growing also entails lower electric cost because there is lesser ground water pumping owing to the reuse of the water that is drained and treated. Fifth, such recycling and reuse of water significantly reduces the volume of water that is extracted from rivers and bore wells. The last advantage of hydroponics relates to weeds because soil is more conducive to weeds.

The use of hydroponics in flower growing involves more investment cost because in addition to the preparation of the soil beds and drip irrigation (tasks that are done for soil-grown flowers as well) there is the need to install the troughs under the volcanic red ash and the water drainage

system. In addition to the drip irrigation, this requires a pipe system that drains water to the treatment site. Hydroponics also involves more processes in managing the drainage and the treatment cycles.

The biggest challenge in the usage of hydroponics at Bukito Flower Farm is the magnitude of its dependence on electric power. In the event of power outage, soil grown flowers can survive for some days because of the moisture in the soil. But flower farms that use hydroponics run the risk of losing the whole plantation if there is interruption of electricity for two or more days because it will disable the drip irrigation system. Bukito farm has a generator. But, on the day of the field visit, the generator was not at the farm because it was temporarily taken to another location. The risk of interruption of the drip irrigation system may also result from factors other than electric power outages.

The fertigation room is computerized. For example, one of the flower farms we visited had encountered technical failure in drip irrigation for five days. In spite of some damages, the flower plants somehow survived mainly due to the soil moisture. Hydroponics farm will lose its entire flowers if such problems are encountered. Water shortage can also occur if there is technical failure in the drip irrigation system due to the unavailability of certain spare parts or technical expertise in the local market.

b) Particular features of hydroponics

The width of each bay in the greenhouses at Bukito Flower Farm is 9.6 meters. Its length depends on the size of the greenhouse. The greenhouses in Bukito flower farm are built on 1.2 hectares. The drip irrigation has two lines and the volume of discharge is controlled. If the gaps between the beds is wide there will be lesser production. Where the rows are too dense the bending flower plants will touch flowers in the next row thereby raising the risk of inter-row spreading out of diseases. Bukito farm thus uses the alternative numbers of six rows on a bay and then seven rows on the next bay.[28]

The most notable observation during the case study at Bukito Flower Farm was the process of water reuse. There are two reservoirs of different size. One of the reservoirs contains water that is pumped from bore well while the smaller reservoir contains water drained from the greenhouses after it is used for irrigation. I was told that the freshwater from the bore well has

0.7 Electrical Conductivity (EC) while the water that is drained back from the drip irrigation has about 2.3 EC. Water is pumped from the bigger reservoir that has freshwaters to the reservoir that contains the water drained from the greenhouses; this is meant to lower the EC of the water in the latter to approximately 1.9 EC. Other microelements are also added. Thereafter, the water is reused thereby saving fertilizer cost. It also saves aggregate water consumption.

Like other greenhouses, Bukito Farm's fertigation room has a computerized system that facilitates the mixing up of the various ingredients in the different tankers so that they can circulate in the drip irrigation. Tanker 1 has calcium nitrate and potassium nitrate. Tanker 2 has magnesium sulphate, and specifically (a) mono-ammonium sulphate, (b) mono-potassium phosphate and (c) ammonium sulphate. Tanker 3 includes iron. This is a post harvest line which has aluminium sulphate and sodium hydrochloride/calcium hydrochloride. I was informed that this line has made it possible to pump water through gravity. This does not, however, mean that it can pump water adequate enough for the flower farm in the absence of electricity or if the fertigation system encounters technical problems. And finally Tanker 4 includes citric acid and sulphuric acid.

The observations at Bukito show that the farm needs to fulfil all the requirements in effective hydroponics with regard to the treatment of the water drained from the irrigation system before reuse. Even if the farm has pursued the right mode of eco-friendly flower growing, hydroponics may not ultimately bring about sustained floriculture if water from the greenhouses is recycled for use without appropriate treatment.

c) Comparison between hydroponics and flower growing on soil

The following explanation regarding the contrast between flower growing on soil and the option of hydroponics was given to me by Tesfaye Gidissa who works at Yassin Flowers.[29] This is based on my request that he contrast what he has observed at Yassin Flowers that uses the soil medium and other flower farms that use volcanic ash hydroponics.

> A shift from soil grown rose farming to other media by most flower growers in Holland and Israel has improved the yield and flower quality. Soil-less culture include rockwool, coco peat, thermo foam, volcanic ashes (hydroponic), sponge, etc.
>
> Soil as flower growing medium has the components of organic matter, mineral particles, water and air (gas). Soil has the functions of:

a) serving as media for plant growth (i.e. a source of nutrients, water storage, and anchorage media (plant support);
b) facilitating the recycling of raw materials through decomposition;
c) inhabiting soil-organisms (soil microorganisms) and the like.

After his brief statements about volcanic ash hydroponics and the function of the soil, Tesfaye highlighted the advantages and the challenges in soil-grown flower farming as compared to red volcanic ash hydroponics. Tesfaye appreciates the efforts of Ethiopian flower farms that use the volcanic red ash hydroponic medium for least some part of their roses. This system "allows more control of crop nutrition and eliminates many of the problems" that accompany in-ground flower growing in greenhouses. Although it is a good system, it involves more cost and growers need to "seek advice from a consultant who specializes in hydroponics."

The key advantage of the hydroponic medium as stated by Tesfaye is the protection of soil and ground water from contamination. The other advantages include good aeration, yield per square meter, quality yield, long vase life, good economic returns, the ability to prepare flower beds on any type of soil without nutritional analysis as it does not use soil nutrients, less infection by disease, easy to recycle drained water and fertilizer solution, less vulnerability to humidity and easier concern for humidity when greenhouses are constructed, and more output in terms of cut-to-cut cycle. The major disadvantages include high cost in preparing the trough (or foil), red ash, fertilizer cost, and sieving. Secondly, the recycling of water involves high cost because treatment of the water is required before reusing it. There is also high risk of loss in production due to welting if there is power outage.

Tesfaye states that most of the rose growers who use the hydroponic medium in Ethiopia reuse recycled water without full-scale treatment of the water drained from the greenhouses; and they merely add micro-elements, a measure which is not adequate to prevent the spreading out of diseases during reuse. He underlines that the treatment of water drained from greenhouses involves tasks and procedures (that are beyond mere usage of micro-elements) to assure that pathogens do not get back to the irrigation system. This, according to Tesfaye, involves high cost and technical knowhow.

8.5. Lessons from Technoscientific Challenges in Inputs and Flower Growing

The case study shows that commercial flower growing is dependent upon highly advanced technoscience. One of the challenges in the Ethiopian flower sector is the gap between the level of technoscience indispensable during the initial investment, periodic inputs and throughout the production process vis-à-vis the current technological foundation that the Ethiopian setting offers for the industry. Cases in point are the compliance standards that are put in place in countries such as the Netherlands and Israel that have advanced technoscientific systems in flower growing vis-à-vis the capability of developing countries such as Ethiopia to observe the standards. The following observations of Shannon during his field flower farm visits in the Netherlands and Israel show good practices.

8.5.1. Wastewater treatment and diversified water sources

Shannon notes that "[t]he most common treatment of water to remove pathogens [in the Netherlands] was the use of ultraviolet light" while some farms "used heat treatment to remove pathogens".[30] The good practices in Israel go beyond wastewater treatment because the magnitude of water stress has necessitated the diversification of water sources for flower farms through various innovative schemes. For example in Nir Chen (Israel) the flower farm obtains water from three sources namely rainwater, freshwater from the national water system and wastewater:

- Rainwater is collected from roofs of growing structures and stored in a dam that is lined and covered to stop evaporation. There is capacity to store 7,000 cubic metres of water.
- Fresh water [is obtained] from Mekorot's national water system. This is problematic in so far that the water can vary in EC (electrical conductivity) from 0.6 to 1.4 mS/cm during a 24 hour period. EC is the measurement of total dissolved salts in solution.
- Wastewater is collected from growing structures and mixed with fresh water to give an EC of 0.5. It is treated by injecting sodium hypochlorite (NaOCl) directly into the line; the chlorine level is monitored at 2%. This gives an effective level of chlorination. When asked why other forms of water treatment was not used i.e. ultraviolet light, the response was that this was determined by issues of reliability and cost. When the water is used from the Merkorot national water system, it is treated first by passing through a reverse osmosis system to reduce sodium chloride levels then mixed with waste water collected from the nursery and then treated by injecting sodium hypochlorite.[31]

Shannon indicates that "the waste water from sewage treatment plants was reused in agriculture as seen at the Hefer Association Water Management Facility" and that "[w]aste water from Netanya is treated and then reused for agriculture in the Hefer Valley".[32] He states the level of attention which is given in Israel to the treatment of waste water. Shannon's observation during his visit to Ziv Roses at Moshav Hayogev was the following:

> The farm has growing structures that cover 1.8 hectares and has 130,000 rose plants in production. Ziv does reuse waste water from the production area, but has to be very careful about levels of sodium chloride in nutrient solution. Waste water is treated with sodium hypochlorite to remove any pathogens from solution. … [S]odium chloride toxicity [can be observed] on the leaves of the rose plants. The nutrient has to be managed very carefully to prevent this from happening. This is one reason that many rose growers in Israel do not reuse waste nutrient solution on roses.[33]

The concerns for economic efficiency and environmental protection are balanced in both the Netherlands and Israel. Hydroponics not only enables them to use lesser water per unit of production, but the level of treatment of the water drained from the greenhouses in both countries renders the water safe for reuse. Reusing water lowers the volume of water extraction from freshwater resources and also safeguards surface and ground water from pollution. In the case of Israel, where water is scarce, diversification of water sources enhances both economic efficiency and environmental protection.

8.5.2. Integrated Pest Management (IPM) and hydroponics

Biological pest control against spider mites and the hydroponics medium in flower growing involve various inputs and processes that envisage a reasonably sound level of technoscience. Many farms shy away from these good practices, and in particular hydroponics, mainly for three reasons. The first factor is cost while the second is attributable to technical skills and lack of awareness about the benefits and cost of such compliance standards. Thirdly, the factor of land tenure has impact on the level of the farm owner's diligence of a '*bonus pater familias*' in caring to the land and its resources. In the Netherlands there is "[e]xtensive use of biological control (integrated pest management) techniques" which "reduce the amount of spraying required.[34] The same holds true with hydroponics which, as highlighted above, has advantages and challenges.

> Hydroponics production as a method of growing in itself is an efficient use of water in that the plants only use what they need. The waste nutrient mix can be collected, treated for pathogens and reused in the system. This creates a saving in the nutrients applied to the crop and the water used by the system. [35]

Shannon identifies two main areas where significant gaps in skills and knowledge exist in Australia where most flower farms utilize hydroponics. They are primarily, the need to improve "water use efficiency and environmental sustainability", and secondly "production management and profitability through innovative technologies."

> In Israel and Spain all hydroponic crops observed were grown on the ground and predominantly in plastic tunnels. This changed in the Netherlands with crops grown in raised beds to increase efficiency in harvesting. The Netherlands were the leaders in using the latest technology.
>
> The water quality varied greatly between countries, with Israel and Spain experiencing very poor water quality with high sodium chloride levels. Most growers used reverse osmosis machines to improve water quality and sodium hypochlorite as a means of removing pathogens from the water supply. ...[36]

Dr. Glenn Humphires observes that the degree of success in the usage of hydroponics depends on the level of investment and technical capabilities. She states that some flower farms are successful in hydroponics while there are others who are resorting back to the soil medium.[37]

8.5.3. Technoscientific promises on environmental compliance *versus* the reality

The good practices highlighted above regarding the means of obtaining water to flower farms in Israel and the treatment of waste water in the Netherlands and Israel presuppose a technoscientific foundation that are missing in developing countries such as Ethiopia thereby leading to pressures on freshwaters that are the sole sources of water supply. The adverse impact that unsustainable flower growing can have on Ethiopia's fresh waters thus relates not only to the volume of extraction but can also entail chemical, fertilizer and pesticide residues on ground and surface freshwaters

Technoscience is in the course of promising solutions to various problems related with the balance between production and environmental sustainability. This, however, assumes the attainment of a certain level of capabilities, skilled manpower and techno-scientific foundation.

Techno-scientific pursuits in production and pilot projects can bring about grave catastrophes in the absence of such foundations. The Bhopal gas tragedy in India (1984) was for example, a technological disaster caused by "a chemical plant modelled in the Midwestern United States" and found "its site in a developing nation without any consideration of cultural, economic, regulatory, and resource difference to such dramatic degrees".[38]

Technoscience should thus be envisaged not only from the perspective of installing a certain technology, but also from the dimension of creating the setting which includes the skills, culture, regulatory framework, resources and other factors. As authors and operators of technoscience, human beings are its *subjects,* while whatever technoscience is meant to produce is its *object*. Even if the *objects* of technoscience in return can bring about changes in the competencies, productivity, behavioural patterns and other aspects of the *subject,* harmony and interdependence between the subjects and objects of technology presuppose that the subject ought to be at the wheels in the course of balancing the rewards and risk in technoscience.

> We already experience the feeling of loss of control and of increasingly being objectified in a technoscientific environment. Technology has placed us literally in control of our destiny. The question "What is it to be human?" can no longer be isolated from the question "What is it to possess technology?" We do not only possess technology; we also serve, duplicate and improve it. Everyone is shovelling coals of progress into the locomotive of society without knowing where it should be going. . . . Our technological world has become the dictating subject and humans 'format' their lives to its demand. The human subject has been lost.[39]

Toit compares our current breakthrough in technoscience (which he refers to as the third axial period) with its precedents and he further compares the impact of these waves on human life:

> Innovations in science and technology are so decisive that it can be said to introduce a third axial period which refers to a period of creative and radical cultural change in human existence. The first axial period refers to all the current major world philosophic and religious traditions which emerged in roughly 800-200 BCE. It was a period of new prosperity and concentration of wealth which stimulated new ideas. The second axial period was introduced in the15th century with the advance of modernism. Our *axial age* is determined by increasingly explosive scientific and technological developments, as well as economic and cultural interpenetration and interaction.[40]

As du Toit notes, the current axial period is accompanied by 'scientific and technological development' which in the context of Ethiopia's flower industry should not only be considered from the dimension of its installation and its utility in production but also from wider dimensions that are *sine qua non* for the aversion of irreversible harm and risk. Apparently, the normative system, codes of practice and the various certification levels encourage compliance standards of social and environmental responsibility. Ultimately, however, Ethiopia's technoscientific setting and the level of institutional capabilities in regulatory effectiveness and governance determine the balance in the resultant benefits and harm.

8.5.4. The hegemonic aspects of technoscience

Technoscience does not only involve the issue of capabilities for efficient use and the avoidance of risk, but it may also bear elements of hegemony which renders a developing economy dependent upon technoscience over which it does not have control. This, *inter alia*, raises the issue of "the 'situatedness' of technoscience".[41] Anderson cites Gilbert Joseph who states that the 'contact zones of empire' in the postcolonial hegemony of technoscience "are not geographic places with stable significations; they may represent attempts at hegemony, but are simultaneously sites of multivocality; of negotiation, borrowing, and exchange; and of redeployment and reversal".[42] Anderson points out the "localness of technoscientific networks, the situated production of 'globality', the transnational processes of displacement and reconfiguration, the fragmentation and hybridity of technoscience".[43]

Paliwala suggests that Baxi's views on "a techno-science mode of production" or Rajan's views "of bio-capital provides a corrective".[44] He paraphrases Baxi's view and notes that "while new technology produces new modes of production, their accompanying millennial libertarian ideologies are likely to disguise new modes of domination". Baxi underlines the role of technoscientific developments and asks: "How may one 'do' sociology of law or even a social theory about law without foregrounding the role of technoscientific developments?"[45] He criticizes the 'post-human' and 'machinistic' world in which technoscience and concerns for security and terrorism (along with their political package) are overwhelming.[46]

Rajan's concept of biocapital informs the technoscientific foundations of the onerous royalties paid by flower farms for seed varieties and the hegemony exercised by the imported

input suppliers over flower growers in Ethiopia. Rajan shows the rapid changes in the object, the practice and the locations of bioscience over the past three decades, and he notes that "this drift towards corporatization has hardly been natural, inevitable, or without contestation".[47]

Joseph November's review on Rajan's book (*Biocapital: The Constitution of Postgenomic Life*) summarizes the core themes of the book which include the following:

> Rajan . . . posits that a new form of capitalism has emerged as a consequence of economies transformed by information technology . . . In the biocapitalistic system . . . value is derived not from goods or services but, rather, from *potential*; wealth is therefore generated by the expectation of profitable production or service. What sets biocapitalism apart, though, are its ties to the discourses of biology, medicine, and spirituality. It is such ties that compel investors, be they individuals, major corporations, or governments, to devote so many resources so unquestioningly to what amounts to mere hope.[48]

Rajan's *Biocapital* "elucidates the mechanisms through which hubristic biomedical researchers, technology-savvy entrepreneurs, and federal bureaucrats drove each other into a global frenzy of promise and expectation".[49] According to November, the book shows how globalized, capitalized technoscience "complicates the central claims of popular models of society, namely those derived from Marx, Weber, and Foucault".[50] He also notes Rajan's observations that "excitement about biotech's potential has radically altered epistemology, ideology, and scientific and economic institutions worldwide" and "that expectation of new biomedical insights and technologies can be as transformative as their advent and spread".[51] With regard to the role of biocapital in poverty reduction or poverty alleviation, Rajan's notion of biocapital underlines that "[i]n India, where millenarian excitement was more subdued, biotech was cast as the means to create a new, 'modernized' national identity without addressing the nation's poverty".[52]

8.6. Lessons from Challenges in the Marketing Tier of the Global Value Chain

The lessons from the foreclosure of various flower farms and the viability of others in spite of the challenges clearly indicate that endogenous and exogenous factors contribute to the success and failure of flower farms. The flower farms that were foreclosed were unable not only to surmount the challenges in the technoscientific complexities of the inputs and processes that are involved in cut flower growing, but also lacked the level of marketing niche which is decisive to thrive and succeed in the highly competitive and buyer-driven global value chain. These challenges have put domestic-owned flower farms at a relative disadvantage as a result of which they are the most adversely affected farms by the pressures from technoscience and the global value chain.

8.6.1. Challenges in the export markets and lack of adequate local market

Traditional businessmen mainly focus on reducing cost and maximizing profit. This mindset can adversely affect the performance of a flower farm if the tendency to reduce cost leads to a '*race to the bottom*' in the working conditions and environmental compliance standards. In fact, it is the flower farms with relatively lower cost in working conditions and environmental compliance standards that failed to surmount the challenges. One of the core challenges rather relates to the market niche in foreign markets because the volume of local market is negligible.

Table 11: Performance profile of five flower farms

	Bukito Agro-Industry	**ET Highlands**	**Rainbow Colours**	**Yassin Legesse Johnson**	**ZK Flowers**
Employees (permanent) (Female + Male)	8+15= 23	240+80 = 320	100+69= 169	80+57= 137	125+52= 177
Employees (Temporary) (Female + Male)	80+40= 120	85+20= 105	-	101+24=125	-
Average number of stems harvested per day	5,000	63,000	22,000	45,000	18,630
Total number of stems produced in FY 2010/2011	2.5 million	23,560,497	8 million	Not stated	7 Million
Total volume of export (in stems)	1.8 million	17,115,732	6.3 million	Not stated	6.8 million
Vol. of sale in local market	Nil	About 39,000	200,000	Nil	Nil
Percentage of sale in the auction market	100%	80%	79%	65%	100%
Percentage of sale in the direct market	Nil	20%	21%	35%	Nil

The table shows that the volume of sale in the local market in the five flower farms stated above is either negligible or non-existent. In effect, the gap between the number of cut flower stems produced and exported during the Ethiopian Fiscal Year 2010/11 shows the volume of stems that remain unsold and disposed as green waste. For example, the difference between the volume of production at ET Highlands during the Fiscal Year (23,560,497 stems) minus the volume of export (17,115,732) and the volume sold in the local market (about 39,000) is 6.4 million stems, i.e. a volume comparable with the annual export volume of flower farms such as Rainbow Colours and ZK Flowers. The volume of ET Highland's harvest that was not sold during the Fiscal Year is clearly more than double the volume of total annual production at Bukito Flower Farm.[53] Even if the bulk that was not be exported could not benefit from the local market, economy of scale is essential because of the benefit gained during the peak flower market seasons enables flower farms to surmount the adverse effects of low market seasons and unforeseeable adversities. As observed during the case study, such gaps between production and sale have major adverse effects in green waste disposal in addition to loss in revenue.

8.6.2. Cost and profit margin structure unfavourable to flower growers

In addition to the gaps between production and marketability, the profit margin percentage is highly unfavourable to flower growers. The following two tables show cost and profit margin structure per stem at three flower farms.

Table 12: Cost structure at three Ethiopian flower farms

Cost structure per stem in percentage	ET Highlands	Rainbow Colours	Yassin Legesse Johnson
Supplies	17%	25%	20%
Production cost other than supplies	15% (Salaries and wages 10%, Electricity, fuel, Maintenance etc 5%)	9%	10%
Packaging	8%	10%	10%
Airfreight	60%	56%	60%

The cost structure clearly shows that airfreight constitutes 56 to 60% of the cost incurred by the three flower farms stated in the table. Airfreight cost, is for example six-fold the amount paid as salaries and wages and about three-fold the amount paid for supplies after the initial investment

cost. It has the tendency to rise along with rising fuel prices and the tightening up of carbon emission policies and laws in various European countries.

The following table indicates the average price per stem obtained in Euro Cents during the peak and low flower market seasons. Although the amount received by flower farms varies depending upon the variety of the flower and the type of market (auction/direct) and other variables, the table considers the average for the year and for all markets and flower varieties:

Table 13: Average price per stem paid to three farms (in Euro Cents)

ET Highlands		**Rainbow Colours**		**Yassin Legesse Johnson**		**ZK Flowers**	
Peak seasons	Low seasons	Peak seasons	Low seasons	Peak seasons	Low seasons	Peak seasons	Low seasons
25 cents	10-12 cents	28 cents	9 cents	25 cents	8 cents	25 cents	12 cents

The price per stem refers to the amount obtained per stem at auction markets or the amount stated in the contracts with direct market customers (i.e. supermarkets) and not the amount that is ultimately paid by the customer. The farm cannot usually trace the actual price that the ultimate consumer pays for its flower per stem. However, the price per bouquet that is paid by the ultimate consumer during the peak and low market seasons for a certain variety of flower clearly shows that most of the return margin goes to the retail and wholesale tiers in the marketing chain.

As Duncan Greene notes "a 12 rose bouquet on a UK supermarket website costs £40, or €3.91 per rose. That means 97% of the final value of the rose you buy in the shop never reaches Ethiopia!"[54] We can draw a parallel in euro cents. If, for example, a bouquet is sold to the ultimate consumer at 3 or 4 Euros per stem less than ten percent of the proceeds come to Ethiopia out of which 60 percent goes to airfreight and about 20 percent for supplies after the initial investment cost.

8.7. Benefits of Vertical Integration of Production and Marketing: Euroflora

Euroflora[55] is foreign owned flower farm established in 2006. The farm has eight greenhouses of 0.75 hectares each. The types of roses grown at the farm are *upper class, high and magic, label, high and yellow, high and orange, polar star,* and *marie dale.* It uses soil as its medium of flower growing and according to the General Manager of Operations, the biggest challenge in using hydroponics is the technology involved. The farm has 100 permanent and 125 temporary employees. 80 per cent of both permanent and temporary employees are women. Unlike flower farms in areas such as DebreZeit or Sebeta, Euroflora has not encountered mobility of workers because there are no factories in the area that attract employees with better pay.

Euroflora benefits from vertical integration between flower growing and marketing. Euroflora has sold 90% of its flowers during the Fiscal Year 2010/11. The ratio of export sale to production (9:10) is among the highest compared with the flower farms covered in the study. Most importantly, Euroflora only sells its flowers in the direct market and receives the highest percentage of financial returns among the farms in the case study. Its export destinations are the Middle East (particularly Dubai) and UK. Euroflora has cold storage chain in Dubai including five cold chain trucks. It also has its own distribution chain. The company has been in the flower growing business in India and Kenya. Euroflora has a person in charge of the marketing in Dubai who directly deals with the company's clients in the direct market that are retailers such as supermarkets or wholesalers.

During the peak seasons, the price per stem earned by the farm including inland refrigerated truck and airfreight is USD 80 cents to 1 USD (i.e. 60 to 75 Euro cents based on the exchange rate on the date of interview), and the price per stem declines to USD 20 Cents (15 Euro Cents) per stem during the low seasons. This average price per stem during the peak and low seasons is clearly higher than the returns of the other farms in the case study. As indicated in Table 13, the average price per stem during the peak seasons in the other farms ranges between 25 to 28 cents while Euroflora earns 60 to 75 Euro cents. During the low seasons, the average price per stem in the other flower farms covered in the study is between 8 and 12 Euro cents per stem while it is 15 Euro cents at ET Highlands and Euroflora.

The vertical integration between the production and marketing has become possible because Euroflora is in charge of both tiers of the value chain, an opportunity which is (at present) nearly

impossible for locally owned flower farms. For example, on June 17th 2007, the flower farm had encountered hail storm that destroyed most structures. It was a challenge for the flower farm to come out of this damage because it involved considerable cost. Yet, the farm managed to revive and then become viable.

The challenges that are being encountered by the farm include downey mildew during the rainy seasons when humidity is high in the Holeta area. Mr. N. Ramchandra further notes the need for more skills in the sector and the need to raise the awareness of workers that the investment benefits not only investors but the country at large. Water is among the challenges in the farm because it is obtained from a bore well which is dug 120 meters deep. By comparison, Karaturi's flower farm located in the same Holeta cluster gets groundwater at a depth of about 65 meters.

Highland locations such as Holeta grow lesser number of flower stems per hectare as compared to lowland flowers. The package that has the standard size of 100cm x 33cm x 21cm is estimated to weigh 12 kgs. A pack will include 160 to 180 stems of flowers produced in Holeta while the same weight and volume can contain significantly more flower stems produced in Ziway. According to the General Manager of Operations, the quality and the price compensates for the lower number of stems.

Air freight for cargo to Dubai used to be 0.85 US cents per kg, but is now 1.31 USD per kg. Cost of freight, other inputs such as fertilizers, chemicals, pesticides and others is increasing while the price of flowers is declining after the global recession. For example the labour cost per day was Birr 6.5 in 2006 while it is now a minimum of ETB 11.50. This according to Mr. Ramchandra is a challenge, particularly if the price of inputs, labor cost and airfreight charges keep on increasing. Mr. Ramchandra underlines that there are four major factors behind the foreclosure of various flower farms, namely: (a) problems of marketing encountered by domestic owned flower farms, (b) problems of harmony between partners or co-owners, (c) problems related with flower growing: expertise, experience, etc. and (d) Problems in the choice of appropriate varieties. While the last two factors are related to the technoscientific competence of the farms, the first two factors (i.e. 'a' and 'b') respectively refer to the challenges that domestic-owned flower farms face in marketing and management.

8.8. Natural and Regulatory Limits in Flower Growing

8.8.1. Ecological and regulatory limits

Flower growing under poor social and environmental compliance standards undermines the very foundation of development itself because it harms society and degrades the ecosystem. Clark uses the distinction made by O'Connor[56] between the direct and indirect sources of ecologically induced economic crises, and notes the tension between 'perpetual' capital accumulation and ecological sustainability.

> [C]apitalism essentially digs its own grave by undermining its own ecological conditions of production (Dickens 2001). A good example would be the depletion of a low-cost source of an essential raw material. … Driven by the logic of 'perpetual accumulation,' the system tends to deplete its own sources and flood its own sinks, creating scarcity in these natural conditions of capitalist production, which, in turn, can become an obstacle to capital accumulation (Harvey 2010:322; O'Connor 1998:173 n.8).[57]

Clark further refers to the indirect sources of obstacles to capitalist accumulation that emanate from the regulatory restrictions that protect the environment. These indirect sources of obstacles, according to Clark, are the "efforts to protect the environment or conserve natural resources" thereby resulting "in restrictions on access to ecosystems and other parts of nature (O'Connor 1998:149)", and in effect create scarcity.[58]

> As O'Connor (1998:149) explained, environmental laws "regulate capital's access to external nature". By placing restrictions on the use of nature as a source, a site, and a sink, these laws create a certain degree of what we might call *legally induced scarcity* in the natural conditions of production required by the regulated industries. ... With this kind of legally induced scarcity, the "scarcity is socially produced" (Harvey 1996:147; see also 1974). … Legally induced scarcity should be thought of as a "socioecological" obstacle rather than one that is purely ecological (Buttel 1997:348). [59]

The distinction between these two challenges indicate the obstacles created by ecology itself as in the case of depletion and degradation *per se* vis-à-vis the proactive or reactive regulatory systems that are meant to protect the environment. Flower growers may face both challenges, i.e. the limits of nature and the normative restrictions. The flower farms in developing countries will eventually encounter the challenges of diminishing returns in soil-grown floriculture. On the

other hand, flower growers in countries such as the Netherlands and Israel face stiff regulatory standards and restrictions that fall under the second category of challenges in addition to their relative disadvantage in labour cost and climatic conditions.

Flower farms in the Global South including the ones in Ethiopia do not only encounter ecological challenges but are also subjected to pressures towards low price per stem while on the contrary the sector requires higher environmental and social compliance standards. Ecological impediments may entail irreversible harm or gradual decline in the production returns. However, the socio-ecological challenge of higher compliance standards is surmountable, and in the long run serves as the key solution towards the alleviation of the ecological challenge classified by Cooper as nature's obstacles.

Clark cites Marx who underlines that "the entire spirit of capitalist production, which is oriented towards the most immediate monetary profit stands in contradiction to agriculture, which has to concern itself with the whole gamut of permanent conditions of life required by the chain of human generations".[60] As agricultural products emanate from environmental assets (which ought to serve the needs of eternity), prime targets at unsustainable short-term economic returns in sectors such as floriculture not only deny current and future generations of their means of survival and well-being but also dig the graves of the economic pursuits themselves. The only course of detour from this black hole is thus going through the second challenge pointed by O'Conner as the indirect challenge in economic returns, i.e. regulatory restrictions and their effective implementation.

8.8.2. The need to avoid Naivasha's eco-tragedy at Ethiopia's Lake Ziway

Malefia Tadele appreciates the economic benefits of flower farms at the shore of Lake Ziway in foreign exchange earnings and the creation of job opportunities to the local people who are mainly dependent upon smallholder agriculture. However, he underlines the need for environmental compliance standards because the level of degradation in the long run adversely affects the utility of the lake for domestic use, fish resources and tourism.

The survey conducted shows that some farms among the 11 inside the Flower Company use waste water management techniques while "most of the farms directly discharge the effluent into the Lake without any waste water treatment procedures".[61] The latter farms use pipes and

waterways from their greenhouses to the lake "to pump the water from the lake and to discharge the effluent back". The study has utilized site survey at five points "chosen along the greenhouses to assess the concentration of physicochemical, nutrients, micronutrients and oxygen demanding parameters."[62]

The study analyzes "the results of physicochemical, oxygen demanding, nutrients and micronutrient parameters" at the impaired sites and compares them with samples taken at the upstream area of the lake which "showed significant difference in physicochemical, nutrients, micronutrients and oxygen demanding parameters." The research proves that the "levels of these parameters were high at the impaired sites especially in sampling sites where waste water management was not put into practice".[63] The findings of the study include the following:

> [T]he potential irrigation problem of the lake water near the farm were slight to moderate and it is also becoming less suitable for the maintenance of fisheries and aquatic life.
>
> Although the water quality of Lake Ziway is still acceptable for irrigation under the current condition, the high level of fertilizer residues in the farm effluent is promoting growth of algae and aquatic vegetation beyond what is naturally sustainable. In addition, the Lake water around the farm is becoming less suitable for sanitation purposes.
>
> In general, because of the activities of the flower farm on the Lake, the water quality may seriously deteriorate and fish catches will decline near the shore of the lake.[64]

The study recommends immediate measures in the absence of which the lake "will be heavily polluted and become unfit for the variety of purposes"[65] which the lake has been serving to date. The recommendations[66] include:

a) *Fertilizer management* by "providing nutrients in the right quantities and at the right time" so that amount of the nutrients entering the lake can be reduced;
b) *Waste water treatment* that would enable the farm to treat effluents loaded with fertilizer and pesticide residues before it discharges them to the lake;
c) *Waste water recycling* which can reduce excessive abstraction of water from the lake and at the same time significantly reduce pollution of the lake; and
d) *Integrated Pest Management* (IPM) that can minimize intensive pesticide application.

In addition to the environmental concerns stated above, the magnitude of intensive agriculture in Ziway shows the intensity of the pressure on the water resources of Lake Ziway which is a Rift

Valley lake with hot climate and a relatively high level of evaporation. In terms of the alternative economic benefits that can be obtained by the sustainable use of Lake Ziway, Malefia concludes that "Lake Ziway has immense potential for sustainable, small-scale agriculture and ecotourism that could protect both the lake and the livelihoods of the communities around it". While sustainable small-scale agriculture promotes "food security for the communities", the Lake "would attract even more local and foreign visitors who would help the local economy while causing little or no damage to the environment."[67]

8.9. Comparative Performance in Domestic, Foreign Owned and Jointly Owned Farms

8.9.1. Volume of export per hectare

The area of land that is developed by domestic-owned, foreign-owned and jointly owned flower farms is respectively 256.7, 946.5 and 106 hectares, which (as stated in Section 7.1) account for 19.6 %, 72.3 % and 8.1 % of the total area of land developed for flower growing (1309.2 hectares). The total export volume of these categories of flower farms during the 2010/11 Fiscal Year (as shown in Annexes 6 to 9) was the following:

Table 14: Summary of export quantity and export value for the Fiscal Year 2010/2011

Mode of Ownership	Developed until June 2011	Export Quantity (Stems)	Export Value USD	Average price per stem for the year
Domestic	256.7	170,620,547	22,823,913	0.133770015
Foreign	946.5	1,539,693,719	142,466,693	0.092529242
Joint Venture	106	37,369,758	5,883,480	0.157439604
Total	**1,309.2**	**1,747,684,024**	**171,174,086**	0.097943383

Table 14 shows that the volume of export by domestic-owned farms (170.6 million stems) accounts for 9.8% of the total volume of export during the Fiscal Year 2010/2011 (1.75 billion stems). The percentage of export volume for foreign owned farms (1.54 billion stems) and joint ventures (37.4 million stems) respectively accounts for 88.1% and 2.1%. Foreign owned farms thus have the highest level of economic performance (88.1% of the total export volume) in terms

of production per unit of land developed in the flower farm (i.e. out of 72.3% of the land they hold out of the land developed in the sector).

Total export value should also be considered because the number of flower stems grown per hectare at the Ziway cluster is higher than other clusters although they have smaller size and lower price per stem (as compared with flowers from higher altitudes). Performance based on total export value indicates that foreign-owned flower farms have the highest economic performance, i.e. 83.2% (USD 142.4 million) out of the total value of flower export in contrast to their developed land holding of 72.3 % out of total land developed for floriculture. Domestic owned and jointly owned farms respectively account for, 13.3% (USD 22.3 million) and 3.5% (USD 5.9 million) out of the total value of export for the Fiscal Year 2010/2011 in contrast to their (developed) land holding of 19.6% and 8.1%.

The analysis of the data was used to test two assumptions. First, the technical and managerial capabilities of foreign owned flower farms leads to the expectation of higher productivity and volume of export per hectare in these farms. Secondly, the fact that foreign owned flower farms have a better niche to foreign markets and better access for vertical integration in the global value chain evokes the assumption that the price per stem declared by foreign owned companies will be higher than domestic-owned farms. The first assumption is substantiated by the data in Table 14 above because foreign-owned farms account for 88.1% of Ethiopia's export by using 72.3% of the land developed for flower growing. With regard to the second assumption, however, the findings (as stated below under Section 8.9.2) show that foreign-owned flower farms declared lower price per stem even if it is apparent that they will get higher price margins due to their ties with the marketing strand of the value chain. Volume of export is different from volume of production because the latter includes the flowers that could not be exported as well.

As Annex 8 indicates, two joint ventures (Continental Agro Industry and Tana Flora) had not yet entered into the phase of export during the Fiscal Year 2010/2011 and the lands developed in these farms (i.e. 17.5 hectares) can be deducted from the figure shown in the table above (i.e. 106 hectares). Yet, joint ventures stand at the lowest tier of export volume per unit factor input of land. Unlike the first impression about the comparative advantages in joint ownership, the data shows that the aggregate performance of joint ventures per unit of land input is the lowest subject to the caveat that there are highly successful joint venture farms.

8.9.2. Export earnings per stem, project distress and compliance standards

Foreign investors apparently have market niche to the direct market which offers better price (at the annual average). Moreover, some foreign-owned flower farms such as Sher have significant role in the marketing tier of the value chain in addition to flower growing. A case in point is the vertical integration that Euroflora has in the marketing tier at Dubai as discussed in Section 8.7. However, Table 14 above indicates that foreign owned flower farms have declared the lowest price margin per stem (0.09 US Cents) while joint ventures have declared the highest per stem (0.16 US cents per stem) followed by domestic owned flower farms (0.13 US cents per stem).

With regard to practices in economic performance, four out the five rated excellent in the course of an interview at the Development Bank of Ethiopia[68] are foreign-owned and one domestic. During the same interview it was found that most of the flower farms under project distress were domestic-owned. Foreclosures and project distress have affected a relatively higher number and percentage of domestic-owned flower farms as compared to that of foreign or joint owned. For example, the flower farms that are closed, foreclosed or sold due to project distress among the list of flower farms that were members of Ethiopian Horticulture Producers Association in 2008 include Meskel Flowers, Garad Flowers, Lucy Ethiopia Flowers, Mam Trading, Menagesha Flowers, Siet Agro, and Summit. Most of these farms are domestic-owned. The farms that are sold were bought by foreign investors.[69] Six flower farms among the current list of flower farms stated in Annex 2 (namely Arsi Flowers, A Flower, Continental Agro-Industry, Evergreen, Super Arsity and Top Flowers are either currently on the borderline from activity, in the process of being closed or are having little economic activity.[70] Four of these farms are domestic owned, one foreign owned and one joint venture.

In the realm of working conditions, four flower farms were mentioned for their good practices in labour conditions during the interview at the Confederation of Ethiopian Labour Unions. They are Maranqe Flowers (foreign owned) followed by Lafto Rose (joint venture) and two other farms that are foreign owned.[71] In the course of the discussion made at Ethiopian Horticulture Producer Exporters Association, the flower farms mentioned for their good practices of using integrated pest management[72] are AQ Roses, Blen, Et Highlands, J. J. Khotari, Joy Tech, Linsen, Minaye, Sher Ethiopia and Ziway Roses. Only two of these farms are domestic owned while the seven farms are foreign owned.[73]

As Humphires notes, Lafto (joint venture is very successful in hydroponics, and foreign owned farms such as J. J. Kothari, Joy Tech and Sheba use hydroponics; Roshinara Roses (foreign owned) uses both hydroponics and soil while Spirit Flower (foreign owned) uses a medium similar to hydroponics for other products. Olij Rose (foreign owned) is going back to soil. It is indeed commendable that a domestic owned farm Bukito uses hydroponics while other domestic owned farms Dire Flower, Dugda and Minaye partly use hydroponics in flower growing. [74]

It was observed that projects under distress usually have the lowest standards in labour conditions and environmental compliance throughout their periods of operation. The findings from the export data, interviews and observations show that foreign owned flower farms have a relatively better economic performance and lesser rates of project distress. However, they have declared lesser foreign exchange earnings per stem (during the Fiscal Year 2010/2011) which is contrary to the relative advantage they have in the marketing strand of the global value chain.

* * *

Notes

[1] Summary of observation and interview with the Farm Manager of ET Highlands, Engineer Emebet Tesfaye, 17 February 2011.
[2] Summary of observation and discussion with the Farm Manager of ZK Flowers, Ato Abebe Mamo, 11 August 2011.
[3] American Heritage Dictionary for English Language [cited in <http://m.wordnik.com/words/downy%20mildew> (Accessed: 1 Oct. 2011).
[4] Abdul Paliwala, Supervision Comments, 27 April 2012.
[5] Summary of observation and interview with the Farm Manager of Yassin Legesse Johnson Flower Farm, Hailye Nigussie, 25 October 2011.
[6] Gijsbert van Liemt (2000), "The world cut flower industry: Trends and prospects", *Working papers*, International Labour Office, Geneva (International Labor Organization, 28 September 2000), Section 4.
[7] However, the number of the farms is relatively stable owing to the new farms that have become operational or due to the transfer of ownership of some farms to new buyers even if some have been foreclosed or under project distress.
[8] Tsegaye Abebe, President of Ethiopian Horticulture Producers and Exporters Association (EHPEA), Interview with the Reporter (Saturday, 14 August 2010).
[9] *Ibid*.
[10] *Ibid*.
[11] Adamu Legesse (2007), *Third Updated Cut flower Sectoral Study*, Development Bank of Ethiopia, Research Department, Sectoral Study Division, Dec. 2007. Unpublished.
[12] *Ibid*.
[13] Teshome Kelbessa (2006), *Floriculture Sector Study 3rd*, Research Department, Sectoral and Opportunity Study Division, Development Bank of Ethiopia, June 2006. Unpublished, pages 42-44;

Shitaye Adugna (2005), *Floriculture Sector Analysis*, Resource Mobilization and Business Development Department, June 2005. Unpublished, pages 49-50, 56-57.

[14] Shitaye Adugna, *Ibid*, pp. 51-53.

[15] Ato Mekonnen Feyissa, Head, Project Rehabilitation and Loan Recovery Department, Development Bank of Ethiopia.

[16] The Agency was established in 2008 by virtue of The Ethiopian Horticulture Development Agency Establishment Council of Ministers Regulation No. 152/2008.

[17] In-depth interview with Ato Kedir Beshir, Expert, Project Rehabilitation and Loan Recovery, Thursday, April 12th 2012.

[18] Dr. Glenn Humphires believes that Lafto Roses is very successful and effective in using hydroponics. Interview with Dr. Humphires, *Infra* note 25.

[19] The facts stated in this section about the biological pest control at ET Highlands are based on field observation during the second visit to the farm at Sebeta (on Tuesday, 03 January 2012) and the interview with the farm manager Embet Tesfarye.

[20] Business Daily, October 16, 2011.

[21] *Ibid*.

[22] Gabriela Perdomo, "Cannibal Killers behind the Perfect Rose". *The Tyee*, May 18 May 2011, <http://thetyee.ca/News/2011/05/18/CannibalKillers/>, Last visited: 2nd January 2012

[23] *Ibid*.

[24] Observation of records at ET Highland Flora, 3rd January, 2012.

[25] Interview with Dr. Glenn Glenn Humphires, Training Coordinator at Ethiopian Horticulture Producer Exporters Association, 26 June, 2012.

[26] Summary of observation and discussion with Ato Yohannes on Wednesday 28 December 2011, Bukito Flower Farm, Debre Zeit.

[27] The flower farm is in Debre Zeit, about 45 Kilometres south of Addis. It is part of the Bukito Agro Industry which, in addition to flower growing is engaged in other agricultural activities that are undertaken in other sites.

[28] One of the flower farms visited during the field research has 7 rows (beds) per bay and other farm has 6 rows per bay. The practice at Bukito Flowers is the synthesis that falls between these two options.

[29] 16 February 2012.

[30] Brian Shannon (2009), *Sustainable Production Technologies for the Cut Flower Industry* (International Specialized Skills Institute), p. 44.

[31] *Ibid* p. 24.

[32] *Ibid*, p. 44.

[33] *Ibid*, p. 30.

[34] *Ibid*, p. 45.

[35] *Ibid*, p. 8.

[36] *Ibid*, p. 43.

[37] Interview with Glen Humphires, *supra* note 25.

[38] Robert Melchior Figueroa (2010), Environmental Justice, Technoscience, and Transformation' <http://csid.unt.edu/files/3tep/3TEP_Figueroa.pdf>, Last accessed 26 Jan. 2012.

[39] Cornel du Toit (2005), "Implications of a technoscientific culture on personhood in Africa and in the West", *HTS 61(3)*, p. 830.

[40] *Ibid*, (citing Gillette 2002:462- 463).

[41] Warwick Anderson (2002), "Introduction: Postcolonial Technoscience", *Social Studies of Science*, Vol. 32, No. 5/6 (Oct. - Dec., 2002), page 651.

[42] Gilbert M. Joseph, 'Close Encounters: Toward a New Cultural History of US-Latin American Relations', in G.M. Joseph, Catherine C. LeGrand and Ricardo Salvatore (eds), Close Encounters of Empire: Writing the Cultural History of US-Latin American Relations (Durham, NC & London: Duke University Press, 1998), 5. [in Anderson, *Ibid*].

[43] Anderson, *Ibid.*

[44] Abdul Paliwala (2012), "Security and Freedom in Cyberspace", Paper delivered at BILETA 2012, University of Northumbria.
[45] Upendra Baxi (2007), "Revisiting Social Dimensions of Law and Justice in a Posthuman Era", Law Social Justice and Global Development Journal, University of Warwick (2007(1).
[46] Upendra Baxi (2007), *Human rights in a posthuman world*: critical essays (Oxford University Press)
[47] Kaushik Sunder Rajan (2006), *Biocapital: The Constitution of Postgenomic Life* (Durham & London: Duke University Press), p. 4.
[48] Joseph November (2008), "Kaushik Sunder Rajan, *Biocapital: The Constitution of Postgenomic Life"*, Book Reviews: *Isis* Vol. 99, No. 1 (March 2008), p. 226.
[49] *Ibid*, p. 225.
[50] *Ibid*, p. 226.
[51] *Ibid*.
[52] *Ibid*.
[53] The figures shown in Table 11 are collected from the farms and the ones that are indicated in Annex 6 are computed based on data gathered from Ethiopian Horticultural Development Agency. The data are nearly similar except Bukito Farm.
[54] Duncan Greene, Oxfam International, A conversational blog written and edited by Duncan Green, <http://www.oxfamblogs.org/fp2p/?p=3626>, Last accessed, 16 January 2011.
[55] Farm visit and discussion with Mr. N. Ramchandra General Manager of Operations, 29th February 2012.
[56] O'Connor, J. (1998), *Natural Causes: Essays in Ecological Marxism*. New York, NY: The Guilford Press.
[57] Jonathan Lawrence Clark (2010), Greening the Factory Farm: Towards a Theory of Agri-Environmental Technoscience (PhD Dissertation , (Pennsylvania State University, College of Agricultural Sciences) p. 14
[58] *Ibid*, pp. 14-15.
[59] *Ibid*, p. 14.
[60] Marx, K. (1991[1894]), *Capital: Volume III*. New York, NY: Penguin. 754 n.27 in Clark, p. 26.
[61] Malefia Tadele (2009*), Environmental Impacts of Floriculture Industries on Lake Zway*: With Particular Reference to Water Quality (M.Sc Thesis, Addis Ababa University School of Graduate Studies, Environmental Science Program (June 2009, Adds Ababa), p. 23.
[62] *Ibid*.
[63] *Ibid*, p. 39.
[64] *Ibid*.
[65] *Ibid*, p. 40
[66] *Ibid*.
[67] *Ibid*.
[68] interview with Kedir Beshir, *supra* note 17.
[69] Discussion with Anteneh Tesfaye (Zifo Agritec Farm Manager), Michael Asrat (Satya Sai Farm Asst. Production Manager and Dawit Tesfaye former administrator and legal advisor, Dire Flower Farm), June 20, 2012.
[70] Interview with Glenn Humphires, *supra* note 25.
[71] Interview with Ms. Tshehay Kebede, Head of Union Organizing and Public Relation Department, National Federation of Farm, Plantation, Fishery and Agro-Industry Trade Union, Confederation of Ethiopian Trade Unions, 3 May 2012.
[72] Interview with Glenn Humphires, *supra* note 25.
[73] *Ibid*.
[74] *Ibid*.

9

CONCLUSION

After decades of pursuits towards development, various sub-Saharan African countries seem to be worse-off in many respects in comparison to their initial years of independence in the 1960s. Their experience shows that the focus of development policies in the era of globalization can neither be purely *endogenous* nor predominantly *exogenous*. No amount of positive external intervention can substitute the people themselves as engines of development. Nor can internal pursuits alone gain the pace and momentum of development in the absence of *win-win* benefits in the current wave of globalization. The constraints, *inter alia*, include what Thorbecke states as marginalization due to *passive* trade liberalization and the tendency to substitute domestic development strategies "to the market forces of globalization."[1] There is thus the need to offer a pragmatic interpretation to the term 'development' so that it would not represent an illusion but positive change and improvement to the benefit and wellbeing of individuals at the grassroots and to concretely visible communities.

9.1. Synopsis

a) The purpose of Ethiopia's investment promotion and the incentives thereof is to enhance *development* and *standards of living* of the Ethiopian people. Although various theories have influenced Ethiopia's policies and laws during the last six decades, there have been setbacks and challenges owing to the gap between doctrinal prescriptions, promises and expectations *vis-à-vis* the realities in terms of sustainable economic benefits and social wellbeing in the context of environmental sustainability.

b) The '*race to the bottom*' with regard to environmental compliance standards is not among the major factors that attract investment in sustainable floriculture which is not only factor-driven but also efficiency and innovation driven. Various concepts, methods and frameworks attempt to strike a balance between development, social well-being and environmental

sustainability. In particular, environmental mainstreaming and sustainability impact assessment can inform the pursuits towards attaining the balance. In the normative domain, Ethiopia's legal regime has constitutional provisions and proclamations that deal with the balance. However, the challenges in the institutional framework render the effective application of environmental protection difficult.

c) The world flower market involves buyer-driven global value chain whose governance and cost-profit structure steadily push down the economic benefit margins of flower growers in developing countries. The comparative experience of flower exporting countries from the Global South offers vital lessons with regard to the opportunities and challenges. The challenges include the sustainability of economic benefits and compliance to social and environmental standards.

d) Floriculture is one of the sectors of investment that is being encouraged and promoted in Ethiopia. However, the challenges encountered in the supply, production and marketing strands of the value chain warrant particular attention towards balancing economic benefits, social wellbeing and environmental sustainability. The magnitude of economic performance which is socially responsible and environmentally sustainable is contingent upon the degree of competitiveness of Ethiopian floriculture in the global value chain in the absence (or inadequacy) of which the figures of statistical growth in flower production and export are unsustainable and can entail irreversible environmental harm.

e) The global value chain in floriculture sets thresholds based on the consumer's legitimate demand for social and environmental compliance standards in flower growing. However, the value chain squeezes down the percentage share of flower growers out of the consumer's price per flower stem. Good practices and challenges were observed during the case study towards sustainable flower growing. However, the cost and profit margin structure, technoscience and other factors impede the scaling up and broadening of these good practices and weaken the efforts of flower farms in their pursuits towards sustainable floriculture. The case study further shows that domestic-owned flower farms have relatively higher rates of project distress and foreclosures while the economic benefits obtained at the national level from foreign investors is not commensurate with the volume of their flower export.

9.2. Analysis and Conclusions

9.2.1. The need to demystify 'investment' decoupled from social well-being

Ethiopian Investment Law expressly articulates two objectives: '*development*' and '*rising standards of living*'. The various incentive schemes presuppose that every investment project positively contributes towards these objectives. However, the experience of various countries has proven that quick-fixes based on 'doctrines of development' and mere good intentions to raise standards of living usually fail, in the absence of institutional capabilities. Wellbeing as discussed in Chapter 2 envisages not only the right to minimum material conditions of life but also includes functionings and capabilities that determine 'wellbeing'.

Institutions and good governance have always been *sine qua non* conditions for effective developmental pursuits and social wellbeing. Even if highly elevated levels of institutional capabilities presuppose advanced stages in economic development, lack of the basic thresholds in institutional capabilities hamper development. In the absence of such basic thresholds, mere endowment with abundant natural resources (as experienced in various African countries) merely creates what is known as the 'resource curse' as the rent and interest gathered from natural capital are misappropriated by a portion of the political and 'business' elite in countries where corruption is widespread. Nor is global integration the magical cure, because the realization of win-win economic and social benefits is directly proportional to the level of endogenous institutional capabilities and good governance.

Throughout the preceding decades, many doctrines of 'development' and policies have influenced Ethiopian laws, and then side-lined in favour of newer versions that came up with a package of aspirations and prescriptions. However, the realization of the standards of living aspired by the vast majority of citizens still seems to be far away, while the rate of population growth and its corresponding pressure on the environment are steadily growing. The solution towards addressing these challenges thus seems to lie in the courage of citizens and policy makers to *admit* and *address* the triadic (and interwoven) economic, demographic and environmental challenges as they are visible facts that speak louder than the statistical figures of 'economic growth.' The discussion under Chapters 1 and 2 warrants the need to demystify the generic unqualified reverence to the word 'investment' and to examine the contribution of

specific investments (or investment promotion packages in specific sectors) to the enhancement of sustainable development and social well-being.

9.2.2.. Environmental Mainstreaming (EM) and Sustainability Impact Assessment (SIA) rather than Cost-Benefit Analysis (CBA)

The rights to development and clean environment are enshrined in the Ethiopian Constitution and other laws. The balanced attainment of these objectives envisages that the tension between the pursuits to development and the right to clean environment be addressed in the context of harmony between the economic, social, environmental and institutional dimensions of development. The imperfect valuation of natural assets such as land, water and others overstate the economic benefits and understate the environmental cost of investment projects and render it difficult to validly conduct Cost and Benefit Analysis (CBA) in projects that use environmental assets as their major inputs. This is indeed pronounced in Ethiopia where land is publicly owned.

Environmental Mainstreaming (EM) and Sustainability Impact Assessment (SIA) rather than Cost Benefit Analysis (CBA) should thus be the methods that ought to be used in examining the degree of the attainment regarding the twin objectives of Ethiopia's Investment Proclamation, i.e. development and social wellbeing in the context of environmental sustainability. Or else, figures in volume of exports and foreign exchange earnings conceal the magnitude of loss in the well-being of citizens, water resources and soil.

The nine core sustainability impact indicators briefly highlighted in Chapter 3 (Section 3.4.2) include three economic indicators (real income, fixed capital formation, employment), three social impact indicators (poverty, health and education, equity) and three environmental impact indicators (biodiversity, environmental quality [quality of air, soil, water …], natural resource stock).[2] The observations made during the case study in light of the nine core indicators of economic, social and environmental impact show partially positive economic impact while the social and environmental core indicators show largely negative impact.

9.2.3. Illusive benefits in foreign exchange, fixed capital and job creation

Economic benefits in terms of real income, fixed capital formation and the creation of job opportunities are the gains expected from the flower farms. However, the real income earned in

the form of foreign exchange is difficult to assess. Even if it was possible to obtain the annual foreign exchange earnings of the sector from the National Bank of Ethiopia (USD 170.2 million in value and 35.96 million kilograms in volume during the Fiscal Year 2009/2010),[3] it was not possible to obtain the foreign exchange spent on periodic inputs for supply because the data available is not disaggregated into the inputs imported specifically to flower farms.

The second challenge in the computation of net foreign exchange gains from flower export emanates from the generic classification of cost of imported inputs (i.e fertilizers, pesticides, chemicals, etc) without reference to the specific sectors such as floriculture. As these inputs are utilized by most of the farms for their agricultural activities (and not solely for flower growing), the amount of foreign exchange that is used in the flower sector cannot be validly documented unless research is made in all farms regarding the amount of imported inputs they have used and the foreign exchange that was required thereof. Nevertheless, the case study shows that imported inputs constitute about 20% of the economic returns of the flower farms. It was also observed that the duty-free importation opportunities of flower farms can be easily abused because a portion of imported fertilizers, pesticides and chemicals can be sold to other agricultural activities.

In spite of the problems to compute the net foreign exchange gains from the flower sector, logical analysis shows that most of revenue from the sector leaves Ethiopia. As stated under Sections 7.1 and 8.9, foreign-owned flower farms hold 72.3% of the total area (of 1309.2 hectares) currently developed for flower growing in addition to which joint ventures hold 8.1%. In terms of percentage of the volume of and revenue from exports, foreign-owned flower farms accounted for over 88.1 % in Ethiopia's total export volume and 83.2 % in total export value during the Fiscal Year 2010/2011. As these foreign-owned flower farms are entitled to repatriate their profits, the figures that are annually reported as foreign exchange gains are misleading. The National Bank of Ethiopia should thus record and report not only the figures of foreign exchange that are received from exports, but should also report the percentage that leaves the country through the imports for flower growing, project extension, royalty fees and repatriated profits.

In addition to real income, the economic dimension of *sustainability impact assessment* includes the impact in fixed capital formation. The relatively modest time-span of greenhouses and the inevitable long-term trend of declining output in unsustainable floriculture (dependent

upon unprotected water and soil resources) would eventually erode the benefits in the realm of fixed capital formation.

Job creation is clearly one of the benefits that flower farms bring about. However, the flower farms have not been able to pay an amount that allows bare subsistence. The average pay per day for farm workers is 11.50 to 13 Birr (about 70 USD cents per day) and this hardly enables the worker to have a single decent meal in most locations. In contrast, investments that facilitate FDI-led kick-off towards industrialization facilitate significant spillovers in technology, managerial skills and human capabilities which go far beyond reasonable levels of minimum wages and appropriate working conditions. The level of wages in flower farms can also be contrasted with the current rates for day labour (about ETB 40, i.e. USD 2.30 a day).[4]

Yet women in particular, whose family mainly depends upon rural smallhold farming benefit from the jobs and they are the ones who constitute about 80% of the workforce thereby looking for additional income that tops up their income. Whether this can be qualified as a significant enhancement of 'job opportunities' is debatable.

9.2.4. Social and environmental impact

The income received by employees positively contributes towards the mitigation, if not the alleviation of their poverty while the negative impact of floriculture (where effective compliance standards are not in place) on the health of workers is an issue of concern. The low farm gate price paid to flower growers by the global value chain has pushed down the thresholds of working conditions.

There is abundant research on the negative impact of commercial flower growing on the environment unless the appropriate compliance standards are put in place. This concern involves not only the type and extent of the environmental damage caused but also the reversibility or irreversibility of the harm. An Equally important concern in this regard relates to the regulatory and institutional capabilities (skills, commitment, integrity and budget) of the pertinent entities in charge of monitoring the implementation of the codes of practice in flower growing.

Soil-grown flower farming can cause the adverse impact of leaching and runoffs on the soil, ground water and surface water. Total dependence on fresh water extraction (about 60,000 litres per hectare per day) from ground and surface freshwater resources is a major environmental

challenge that needs to be addressed by flower farms through water recycling and diversification of water sources based on good practices from other countries such as Israel. As the water consumption per person in Addis Ababa is about 20 (Twenty) litres per day, the water used per hectare in flower growing can satisfy the water demand for three thousand persons in Addis. There is apparently a lower rate of household water consumption per person in the other cities and in rural areas.

Moreover, the observations during the case study reveal problems in waste disposal. The examples of environmental degradation in places such as Lake Ziway (highlighted under Section 8.8.2) illustrate the magnitude of the problem. Even if the lessons gained from the good practices in the Netherlands and Israel (Section 8.5) can address these environmental challenges in the course of flower growing and waste disposal, the cost involved and the technoscientific challenges for Ethiopia's flower farms are impediments against the realization of such compliance standards.

The efforts of ET Highlands Flora and other flower farms to introduce Integrated Pest Management through biological pest control and the use of hydroponics in some farms are indeed commendable. However, the risks involved in hydroponics farming during power outages and technical glitches coupled with the challenges of cost and skills seem to render this medium less attractive in most Ethiopian farms despite its relative advantages stated in the preceding chapter. It is further to be noted that hydroponics envisages not only reusing reclaimed water by mixing it with freshwater and adding micro-elements, but also involves wholesome treatment against pathogens as is the practice in the Netherlands and Israel. Even if the practice at Bukito is commendable, optimal benefit from hydroponics needs further treatment of the water drained from the greenhouses before it is recycled into the drip irrigation system.

There is thus the need for regulatory schemes that require the reuse of water by, for example, rendering hydroponics mandatory in future projects and extensions or at least initially using incentive schemes for hydroponics. Moreover, the efforts to introduce biological pest control can be scaled up in all flower farms. These pursuits towards environmental compliance, however, clearly involve cost and require technoscientific capabilities. They seem to be hardly attainable in the absence of fair apportionment of economic returns to the flower growing tier of the value chain.

9.2.5. 'Fair' flowers in the absence of fair trade in the global value chain

The marginal returns per stem that are obtained by flower farms that do not have vertical integration with the marketing tier of the value chain do not only erode the economic benefits of a flower farm, but also lower social and environmental compliance standards. The concerns raised above regarding the negative impacts in economic, social and environmental sustainability are largely attributable to unfair profit structure in the global value chain.

Ethiopia's flower sector can hardly have a significant contribution towards the attainment of the objectives of investment promotion, i.e. development and social wellbeing as long as the market tier of the global value chain dissociates codes of practice towards the production of fair flowers from fair price that ought to be offered to flower growers. A challenge in this regard is the rush of the Global South to promote investment and pursue mass production for flower export thereby pushing up supply in spite of periodic setbacks and contractions in the demand side.

The floriculture discourse involves the extended usages of the words 'fair trade', 'fair flowers' and other comparable qualifiers. "The term fair trade is most often used to describe trade that promotes sustainable development by improving market access for disadvantaged producers".[5] In the context of floriculture, 'fair trade' presupposes market access and equitable share in the profit structure that enables flower growers to earn 'fair' price for their products compatible with the standards of social and environmental responsibility that national and international benchmarks require.

For example, when "stores or trading organizations deal directly with small producers, cutting out expensive middlemen, producers earn more and are able to reduce their impact on the environment".[6] However, the scale of the world market, the perishability of flowers and the inability of small and medium-sized flower farms to control or influence the upper marketing strands of the global value chain render the theme of 'fair trade' in floriculture a symbolic declaration of intent rather than a practical code of practice in the flower markets.

> Fair trade works well in industries such as coffee, replete with small and medium-sized producers. It is far more difficult to transfer it to capital-intensive ... large-scale flower production which is dominated by large companies. Investment in infrastructure, new flower varieties, modern technology, expensive pesticides and the necessary contacts

> with the international trading community make the flower industry capital-intensive and out of the reach of small producers. ... Given the structure of ownership in the flower industry, the European Flower Campaign aptly refers not to fair trade in flowers but to 'fair flowers', which are defined as flowers produced 'under socially and environmentally sustainable conditions'. [7]

As Hughes (cited in Section 6.3) observes "neo-liberal political rationalities centering on the ideals of competition and the market mechanism" underpin "the workings of the global cut flower trade".[8] The paradox in this global flower trade is the pressure from various retailers (including supermarkets) towards lower prices that are not commensurate with the standards and eco-labels they require. This pressure "is passed down the chain creating a more risky work environment (Edwards, 2007)" and to environmental compliance standards which create the tendency towards "trade off between economy and environment in the industry".[9]

'Fair flowers' should thus presuppose 'fair trade' (and 'fair price'), and it logically follows that the production and marketing aspects of the chain need to be jointly addressed. However, the global value chain "imposes higher quality, environmental and social standards while paying lower prices to producers and reducing their profit margins" [10] in such a manner that it can hardly be "endured by the floral chain".[11] For example, between 2002 and 2005, the Society of American Florists (SAF) estimated an increase in the "volume of flower imports into US at 24%" while the trade value increased by only 3%.[12] "This tendency is also confirmed in the world market with a volume increase of 30% compared to 8% in value, as reported for the same period in the COMTRADE data base".[13] It is thus surprising that most codes of practice "focus exclusively on the realm of production - with varying degrees of attention paid to environmental and social issues - and almost always ignore the terms of trade between producers and buyers".[14]

In August 1998, the pursuits to standards and socially and environmentally sustainable conditions in flower production culminated in "the creation of the International Code of Conduct for the Production of Cut Flowers (ICC)" which was drafted "with the participation of many European NGOs and the International Union of Food and Agricultural Workers." ICC is based on "international human rights standards, basic environmental standards, and International Labour Conventions".[15] However, a major lacunae still persists in spite of the efforts and achievements towards the articulation of the International Code of Conduct for the Production of Cut Flowers.

The very existence of the International Code of Conduct sends a strong message that respecting the environmental and social standards are *sine qua non* conditions to competitiveness in export markets, and in particular direct markets. Yet, the effective implementation of these standards in the flower industry is hardly feasible unless the notion of 'fair flowers' is accompanied by 'fair price' which offers 'fair' profit margins to flower growers commensurate with the social and environmental standards that they are required to meet. The key task in addressing these difficulties lies in the resolution of the contradiction in the marketing strand of the value chain which decouples the concept of 'fair flowers' from 'fair trade'.

9.2.6. 'Soil-grown flower' grabs in the production chain

There are two tracks of flower production that can be discerned from the preceding chapters. The first track relates to the flower production and export boom which is bound to be followed by stagnation and decline. This is the experience we observe in modes of flower production that 'benefit' from unprotected soil and water resources rather than competitiveness and productivity. The first cohort of rose plants in new flower farms may last for about six or seven years before they are cleared to be replaced by a new generation of flower plants. The first generation of roses planted on unprotected soil, which may be referred to as the 'virgin flowers', are the ones that create the initial impression in the minds of investors and policy makers. As cohorts of flower plants come and go in seven, six, five and lesser years, there will be lower returns per unit due to factors such as the *pesticide treadmill*.[16] Even worse, the lakes they depend on recede, groundwater tables drop, and soil nutrients deteriorate.

The enthusiasm to attract investment, enhance job opportunities, obtain foreign exchange and other benefits usually triumph over the need to proactively minimize or avoid the adverse impact that this track can have on labour conditions and the environment. During the take-off years of this track of flower production, the figures that show a dramatic rise in terms of volume of production and export revenue tend to outstrip the gains from most traditional exports. Yet, after having served their roles as 'annual export records' of the flower exporting country, significant portions of the foreign exchange 'earnings' that result from FDI in the sector ultimately end up being bubble dollars that flee towards foreign bank accounts in the forms of profit repatriation, import remittances and royalties for seed varieties.

The second track involves ‘sustainable’ flower production. It considers not only the life spans of particular cohorts of flower plants, but has the longer vision of their sustainable production and the benefits thereof. In this track, the core foundations of plant life, i.e.- soil, water and climate are regarded as more important than the particular pieces of flowers that blossom and die in a few days.

The lessons that we learn from the flower industry in the Netherlands represents sustainable flower growing. This explains the sustainability of the Dutch flower industry over a long period of time. Good practices in this regard clearly show the integration of the supply, production, marketing and distribution chains. This integration which is both horizontal and vertical has enabled the Dutch flower industry to upgrade its production in varieties and quality, and also switch flower farm greenhouses to other spheres of horticulture such as potatoes whenever necessary. The Dutch flower industry has the human capital, technological base and governance that are necessary for the flower industry which is capital-intensive and technology-based.

The flower industries of Colombia, Ecuador and Kenya initially pursued the eco-suicidal track of ‘virgin flower’ booms until social movements, consumer pressures and the rat race in the mass flower market ultimately brought about some level of sobriety and introspection. This is articulated, *inter alia*, in various codes of practice. Unfortunately, the upper strand of the flower chain, i.e. the marketing tier in the global value chain (that includes auctions, wholesalers and retailers) skims off the biggest portion of the price that the customer pays per stem. And ultimately, the pie that gets to the pockets of the flower grower dwindles as the major part of the remaining proceeds goes to inputs and air transport.

Enlarging the pie and accordingly getting a bigger piece cannot also resolve the challenge because the size of the pie is determined by the tier at the buyer’s end that has vested interest in putting pressures towards lower prices. Social movements and consumers, as stated in the preceding section, have succeeded in creating pressures towards the emergence of codes of conduct such as the International Code of Conduct for the Production of Cut Flowers. But these codes are likely to remain weak as long as “the terms of trade between producers and buyers” are left to the domain of *business as usual*.

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9.3. Reconstructing Truth and Reality

The synopsis and conclusions reveal three contradictions related to law enforcement (towards balancing the pillars of sustainable development), technoscience and the global value chain. The first contradiction relates to the Ethiopian legal regime which articulates 'sustainable development' and sets forth environmental compliance standards unaccompanied by effective institutional and governance framework commensurate with the thresholds embodied in the laws on pollution, environmental impact assessment and codes of practice in floriculture. This reflects the inherent tension in the concept of sustainable development and in the entities that pull the laws towards different directions. The tension usually culminates in the triumph of economic actors as a result of which 'sustainable development' in its current mainstream interpretation, has been reduced to serve as the façade for the '*growth first*' paradigm.

Adelman considers the concept of sustainable development [in its mainstream weak interpretation] as "an archetypical form of hegemonic knowledge, and ideological cocktail of anthropocentrism, developmentalism, neoliberalism and scientism" and he notes that it is "based on a narrow and weak notion of sustainability that promotes reformist fantasies that the crisis can be addressed within the social, economic and cultural structures that created it".[17] He argues that the current mainstream theory of being (ontology) and theory of knowledges (epistemology) are reflections of the social, economic and cultural structures that have alienated man from "its own nature and nature himself," and cannot resolve the economic-ecological crisis within capitalism.[18]

> Capitalism imposes 'a logic of competition, progress and limitless growth' in a regime of production and consumption that seeks profit without limits, that separates human beings from nature and imposes a logic of domination and the commodification of everything: 'water, earth, the human genome, ancestral cultures, biodiversity, justice, ethics, the rights of peoples, and life itself.'

Adelman foresees two routes that may lead humanity out of the crisis of overconsumption, commodification, profit *cum* unlimited growth fetishism and the subsequent ecological crisis. The first possibility involves "not the transformation, but the intensification of business as usual, which will square circles and resolve contradictions by reconciling endless growth and environmental protection." Under this route, Adelman underlines that "we can but hope that

future historians will have an environment in which to contemplate why we fiddled while the planet burned and *whether we were too stupid to survive*." The second route which Adelman suggests is what Santos proposes towards overcoming "the limitations of hegemonic knowledges by incorporating the epistemologies of the South in an ecology of knowledges." This includes traditional knowledges[19] (that emanate from life and nature) and initiatives such as Ecuador's act of constitutionalizing nature's rights[20] under Articles 71, 72 and 74 of its Constitution.

This notion of the need for alternatives to the weaker conception of sustainable development is indeed relevant because there is either the need to explore alternative paradigms of social progress or at least embrace the stronger version of sustainable development which underlines the need for environmental protection as the basis for economic development. As the flower industry in Ethiopia heavily relies on environmental assets (soil, water and climate) and because their degradation renders floriculture and other agricultural activities unsustainable, there is the imminent need to ensure environmental protection as a prime focus in the course of flower growing, post-harvest handling and waste disposal. In the absence of environmental mainstreaming in all investment projects and effective sustainability impact assessment, this contradiction, resolves itself by destroying the very foundation of development and 'wellbeing'.

The second contradiction relates to the techno-scientific element in the floral value chain which has facilitative functions in the enhancement of production including cut-flowers and at the same time exposes the host state to risks it cannot control and reverse. This contradiction is further exacerbated by the hegemonic role of techno-science because it not only dictates its terms such as royalties (per flower plant), import-dependence, etc. but also substitutes the real world of transaction in goods and services to the virtual world of *expectations* and *potential benefits*. This raises the question whether it is "possible to develop a techno-science which is appropriate to Ethiopia instead of relying on the ones developed for Dutch and Israeli conditions".[21] One may also raise the question whether the challenges in techno-science impose lesser difficulties in other options of horticulture such as herbs and vegetables.

The third contradiction emanates from the marketing tier of the global value chain because the meagre profit margin which trickles down to flower growers in Ethiopia is inconsistent with the social and environmental compliance standards that involve significant cost. The contradiction is further sharpened by the fact that lower compliance standards do not enhance

profit but rather reduce competitiveness in the export market and bring about project distress. This contradiction seems to be irreconcilable under the current buyer-driven global value chain in floriculture because the cost and profit structure, the tendency of the supply and marketing tiers to maximize profit, and the tendency of flower exporting countries to compete among themselves in mass cut-flower production constitute the very foundation and essence of the chain. As observed under Section 8.9, domestic flower farms are the most severely hit in this inherent feature of the value chain. In fact, the pace of foreclosures and project distress which mainly includes domestic-owned flower farms clearly prove that such lose-lose scenarios entail not only economic loss but also the footprints of social and environmental harm.

These contradictions call for "the reconstruction of the connection between truth and reality [and] between words and things" which requires new perspectives of "seeing, knowing and being".[22] In the context of Ethiopia's flower sector, the alternative does not mean closure of flower farms or abrupt reversal of policies, but incremental transition to sustainable floriculture which requires transition from the weaker version of sustainable development to the stronger version in which environmental sustainability is not traded off for short-term economic benefits. In particular, thresholds of compliance (for new projects or greenhouse extensions) such as requiring hydroponics, water reuse, integrated pest management and multimodal water sources are expedient. Equally important is the need for transparency and accountability of flower farms regarding data on inputs (chemicals, pesticides, fertilizers, wages, royalties, volume of water extraction, etc.), production processes, waste disposal and the records of sale.

The immediate concern can be the 'risk' of scaring away FDI in floriculture. For a sector which is highly exposed to irreversible environmental harm under weak compliance standards, and susceptible to *transfer pricing* as a result of overstated price of inputs and understated export revenue, this 'risk' of scaring away 'investment tourists' can be 'good riddance.' This indeed can mark the prelude towards keeping our house in order and nurturing the key factors in national and sector-level competitiveness that can attract socially and environmentally responsible FDI toward value-creating economic activities which can facilitate Ethiopia's take-off to industrialization.

* * *

Notes

[1] Thorbecke, Erick (2007). "*The Evolution of the Development Doctrine,* 1950 – 2005", in *Advancing Development: Core Themes in Global Commons,* Mavrotas & Shorrocks Editors. (New York: Palgrave Macmillan), p. 31.

> Thorbecke states the lessons that can be learnt from the Asian financial crisis that hit much of East and Southeast Asia in 1997, i.e. the need for "critical re-examination of an international trade and financial system based on excessive trade and capital liberalisation and financial deregulation." The crisis has also "triggered a re-examination of the role of government in protecting the economy from major shocks originating abroad." (p. 24).

[2] Clive George and Colin Kirkpatrick (2004), "Trade and Development: Assessing the Impact of Trade Liberalization on Sustainable Development", Journal of World Trade, 38(3) at 448.

[3] Data obtained from the National Bank of Ethiopia, 24 October 2011.

[4] Based on the rate of exchange in May 2012.

[5] VIDEA (Victoria International Development Education Association), Fair Flowers, Fair Trade and Informed Consumers: Building on European Strategies for Public Engagement, December 2001.

The following definitions are given by Oxfam Great Britain and The International Federation for Alternative Trade:

- [Fair trade] seeks to overcome poverty and provide decent livelihoods for producers through a partnership between all those involved in the trading process: producers/workers, traders and consumers."
- Trade with concern for the social, economic and environmental well-being of marginalized producers in developing countries. This means equitable commercial terms, fair wages and fair prices. Unfair trade structures, mechanisms, practices and attitudes will be identified and avoided. (VIDEA).

[6] *Ibid*.

[7] *Ibid*.

[8] Alex Hughes (2001), "Global Commodity Networks, Ethical Trade and Governmentality: Organizing Business Responsibility in the Kenyan Cut Flower Industry", *Transactions of the Institute of British Geographers*, New Series, Vol. 26, No. 4, p. 396.

[9] Abu Kargbo, Jing Mao and Cai-yun Wang (2010), "The progress and issues in the Dutch, Chinese and Kenyan floriculture industries", *African Journal of Biotechnology* Vol. 9(44), , November 2010, p. 7407.

[10] Ernesto Vélez (2007), Colombian Floriculture, A case of competitive entrepreneurship, with social and environmental responsibility, in a country under difficult and changing conditions (No. 2 of the distinguished lecture series, Texas A.& M. University, March 2007), Section A, paragraph 3.

[11] *Ibid*.

[12] *Ibid*, Footnote 8.

[13] *Ibid*.

[14] Hughes, *supra* note 8, p. 392, [citing Blowfield 1999; Hughes 2001].

[15] *Ibid*.

[16] "The downsides of unsustainable green revolutions and large scale agricultural activities include the *pesticide treadmill* as pests become resistant to pesticides. This leads to the continuous spiral challenges of using stronger pesticide. Meanwhile, the pests that survive pass on their genes (that are resistant to a particular pesticide) to their offspring. In the process, organisms that are useful are killed to the detriment of the fertility of the soil." (Elias N. Stebek, *Mizan Law Review*, Vol. 5, No. 2, p. 175).

[17] Sam Adelman (2010), *Re-imagining Climate Justice in the Ecology of Knowledges*, Unpublished.

[18] *Ibid*.

[19] "… Inuit traditional knowledge is derived from observation and lived experience. 'It is a highly pragmatic and comprehensive system of knowledge of the land, animals, weather patterns, winds, and changes in these elements... [and] includes knowledge of how to conduct oneself personally and how to relate to others. Traditionally, Inuit knowledge was transmitted via an oral tradition, and there was no divide between physical and metaphysical aspects of the world' (Adelman citing Koutouki & Lyons 2009-10: 523)."

[20] Ecuador became the first country in the world to constitutionalise nature's rights consistent with *Pachamama*. The rights of nature are covered in Chapter Seven, which states (Art. 71) that "nature, or *Pacha Mama*, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes." Nature has the right to be restored (Art. 72) and "Persons, communities, peoples, and nations shall have the right to benefit from the environment and the natural wealth enabling them to enjoy the good way of living" (Art. 74).

[21] Abdul Paliwala, Supervision comments, 27 April, 2011

[22] Arturo Escobar (1995), *Encountering Development: The Making and Unmaking of the Third World* (Princeton, NJ: Princeton University Press) p. 223.

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APPENDICES

Annex 1: Themes of Discussion during Flower Farm Visit

Annex 2- Flower Companies (Operational in June 2011)

Annex 3- Domestic Owned Flower Farms (Operational in June 2011)

Annex 4- Foreign Owned Flower Companies (Operational in June 2011)

Annex 5- Flower Companies, Joint Venture (Operational in June 2011)

Annex 6- Annual Export Volume and Value of Domestic Owned Flower Companies (Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

Annex 7- Annual Export Volume and Value of Foreign Owned Flower Companies (Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

Annex 8- Annual Export Volume and Value of Joint Venture Flower Companies (Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

Annex 9- Summary of Tables 6, 7 & 8

* * *

Annex 1: Themes of Discussion during Flower Farm Visit

1. Name of the flower farm
   _____
2. Year of establishment _____
3. Ownership (Foreign, Joint, Domestic, etc.) _____
4. Number of Greenhouses _____
5. Size of each greenhouse _____
6. Mode of flower growing (Soil/ hydroponics/ gutters, or mixture of these modes)
   _____
7. Number of employees _____
   a) Permanent
      Female _____, Male _____, Total _____
   b) b) Temporary
      Female _____, Male _____, Total _____
8. Types of flowers produced
   _____
   _____
9. Total volume of production during the previous Fiscal Year (stems in millions)
   _____
10. Average volume of harvest per day (stems) _____
11. Total volume of export during the previous fiscal year _____
12. Volume of sale in local market (if any) during the previous fiscal year _____
13. Percentage of export to:
    a) Direct market _____
    b) Auction sales _____
    c) Major export destination/s and its/their percentage share in total export volume
       _____ _____
14. The supply chain
    a) Challenges
       _____
    b) Opportunities
       _____
       (NB- vertical or horizontal integration is an opportunity)
15. The production chain, post-harvest handling and refrigerated truck transportation:
    a) Challenges
       _____
    b) Opportunities
       _____

16. Inspection on farm and at airport of departure
    a) Challenges
    _____
    b) Opportunities
    _____
17. Airfreight
    a) Challenges
    _____
    b) Opportunities
    _____
18. Marketing
    a) Challenges
    _____
    b) Opportunities
    _____
    (NB- vertical or horizontal integration is an opportunity)
19. Work conditions
    a) Working hours
    b) Range of salary
    c) Health care and safeguards
20. Challenges in environmental compliance
    a) Safeguards against environmental harm by chemicals and pesticides
    b) Waste disposal
21. Cost structure (per stem or in percentage)
    a) Supplies _____
    b) Production cost other than supplies _____
    c) Packaging _____
    d) Other cost including refrigerated inland transport to Airport _____
    e) Airfreight _____.
22. Profit margin structure (per stem or in percentage)
    a) Consumer's purchase price per stem:
       (i) peak seasons _____ (ii) low seasons _____
    b) Price paid to growers including inland refrigerated truck and airfreight:
       (i) peak seasons _____ i) low seasons _____
    c) The amount (per stem or percentage) paid for airfreight from the figure stated in 22(b) above _____.
23. Regulatory schemes of monitoring compliance and any other information which you would like to add:
    _____
    _____
    _____

Annex 2- Flower Companies (Operational in June 2011)

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
1	A flower	118	11	Ethiopia	Holeta
2	Abysinia Flowers	31	17	Holland	Sendafa
3	Agri Flora	22	12	India	Holeta
4	Aliance Flower	19.2	9.3	India	Holeta
5	AQ Rose	0	40	Holland	Ziway
6	Arsi Flowers	12	8.2	Ethiopia	Holeta
7	ASK Flower	39	3	India	D/brhan
8	Awassa Greenwood	100	11	Ethiopia	Awassa
9	Blen Flower	20	8	Holland	Ziway
10	Braam Flower	0	10	Holland	Ziway
11	Bueti Flower	18	12	Joint Venture	Sebeta
12	Bukito Agro Industry	25	5	Ethiopia	D/zeit
13	Continental Agro Industry	25	7.5	Joint Venture/Russia	Holeta
14	Derba Flowers	40	23	Holland	Sululta
15	Desa Plants	22	7	Holland	Koka
16	Dire Bicolor	25	7.4	Ethiopia	Sebeta
17	Dream Flower	20	7.2	India	Holeta
18	Dre-Highland	28	7.6	Ethiopia	Holeta
19	Dugda Floriculture	36	22	Ethiopia	D/zeit
20	Eden Rose	20	9	India	Sebeta
21	Enyi Ethio Rose Addis	15	15	Ethiopia	Sebeta
22	Enyi Ethio Rose Awash	26	13	Ethiopia	Sebeta
23	ET Highland	20	12.6	Ethiopia	Sebeta
24	Ethio Agri-ceft Bahridar	35	0	Saudi Arab	Bahirdar
25	Ethio Dream	22	10.7	Saudi Arab	Holeta
26	Ethio-Agri-ceft	29	13.5	Saudi Arab	Holeta
27	Ethiopassion Agro	20	10	Joint Venture	Sebeta
28	Ethiopian Cuttings	91	18	Germany	Koka
29	Ethiopian Magical Flower	26	20	Israel & Holland	Sendafa
30	Ethiopian Meadows	105	47.8	India	Holeta
31	Euro Flora	22	7.3	India	Holeta
32	Evergreen	20	5.7	Saudi Arab	D/zeit

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
33	EWF Flowers	16	5	Holland	Sebeta
34	Eyasu Sirak	10	6.4	Ethiopia	D/zeit
35	FIYORI Ethiopia	28	3.3	Ethiopia	Holeta
36	Florensis Ethiopia	20	10.5	Holland	Koka
37	Flower Ama	19	6.2	Ethiopia	Holeta
38	Freesia Flowers	15	3.2	Holland	Sululta
39	Friendship Flower	25	9	Ethiopia	D/zeit
40	Galica Flower	20	8	France	Holeta
41	Giovani Alfano	46	9	Italy	Bahirdar
42	Golden Rose	42	22	UK	Sebeta
43	Herburg Rose	0	40	Holland	Ziway
44	Holta Rose	21	13	Joint Venture	Holeta
45	Hussein Alisaid	35.7	6	Saudi Arab	Holeta
46	JJ Kotari	34	7.3	India	Sululta
47	Joe Flower	10	5.1	Ethiopia	Holeta
48	Joshiwa Flower	20	6	USA	Holeta
49	Joy Tech	40	29.5	Israel	D/zeit
50	Kaf Flower	17	5	Saudi Arab	Holeta
51	Lafto Rose	37	22.5	Joint Venture	Sebeta
52	Langano Lilly	25	11.9	Holland	Awassa
53	Linsen Rose	65	50.2	Holland	Holeta
54	Maranque Flowers	70	12	Holland	Awash
55	Marjinpar Flowers	37	15	Holland	Holeta
56	Minaye Flower	20	13.6	Ethiopia	D/zeit
57	Olij Rose	20	13	Holland	D/zeit
58	Omini Blosom	20	15	Joint Venture/Israel	D/zeit
59	Oromia Flowers	20	10.9	India	Holeta
60	Rainbow Colors	43	5.5	Ethiopia	D/zeit
61	Red Fox	104	39	Germany	Koka
62	Rose Ethiopia	23	11.6	Ethiopia	Holeta
63	Roshanara Roses	30	11	Israel	D/zeit
64	Saron Rose	20	10	Ethiopia	Sebeta
65	Selam Flower	17	5.2	Ethiopia	Sebeta
66	Sheba Flower	20	14	Israel	Sebeta

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
67	Shecter Yosuf	20	2	Israel	Holeta
68	Sher Ethiopia	500	216	Holland	Ziway
69	Sprit Flower	24	13.7	Israel	D/zeit
70	Super Arsity	40	14.5	Ethiopia	Awash
71	Supra Flowers	20	10.8	India	Holeta
72	Surya Blossom	366	64	India	Sebeta
73	Tal Flower	20	16	Joint Venture/Israel	Sebeta
74	Tana Flora	87	10	Joint Venture	Bahirdar
75	Tinaw Flower	20	13.8	Ethiopia	Sebeta
76	Top Flowers	23	10	Ethiopia	Holeta
77	Yalkoneah Flowers	19	3	Belgium	Sebeta
78	Yassin Legesse	31	14.3	Ethiopia	D/zeit
79	Zagwe Flower	22	8	Ethiopia	Sebeta
80	Zefinowel Flower	70	0	Ethiopia	Bahirdar
81	Ziway Rose	0	40	Holland	Ziway
82	ZK Flower	17	7.4	Ethiopia	D/zeit
		3,319.9	**1,309.2**		

Annex 3- Domestic Owned Flower Farms (Operational in June 2011)

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Cluster
1	A flower	118	11	Holeta
2	Arsi Flowers	12	8.2	Holeta
3	Awassa Greenwood	100	11	Awassa
4	Bukito Agro Industry	25	5	D/zeit
5	Dire Bicolor	25	7.4	Sebeta
6	Dre-Highland	28	7.6	Holeta
7	Dugda Floriculture	36	22	D/zeit
8	Enyi Ethio Rose Addis	15	15	Sebeta
9	Enyi Ethio Rose Awash	26	13	Sebeta
10	ET Highland	20	12.6	Sebeta
11	Eyasu Sirak	10	6.4	D/zeit
12	FIYORI Ethiopia	28	3.3	Holeta
13	Flower Ama	19	6.2	Holeta
14	Friendship Flower	25	9	D/zeit
15	Joe Flower	10	5.1	Holeta
16	Minaye Flower	20	13.6	D/zeit
17	Rainbow Colors	43	5.5	D/zeit
18	Rose Ethiopia	23	11.6	Holeta
19	Saron Rose	20	10	Sebeta
20	Selam Flower	17	5.2	Sebeta
21	Super Arsity	40	14.5	Awash
22	Tinaw Flower	20	13.8	Sebeta
23	Top Flowers	23	10	Holeta
24	Yassin Legesse	31	14.3	D/zeit
25	Zagwe Flower	22	8	Sebeta
26	Zefinowel Flower	70	0	Bahirdar
27	ZK Flower	17	7.4	D/zeit
		843	**256.7**	

Annex 4- Foreign Owned Flower Companies (Operational in June 2011)

S. No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
1	Yalkoneah Flowers	19	3	Belgium	Sebeta
2	Galica Flower	20	8	France	Holeta
3	Ethiopian Cuttings	91	18	Germany	Koka
4	Red Fox	104	39	Germany	Koka
5	Abysinia Flowers	31	17	Holland	Sendafa
6	AQ Rose	0	40	Holland	Ziway
7	Blen Flower	20	8	Holland	Ziway
8	Braam Flower	0	10	Holland	Ziway
9	Derba Flowers	40	23	Holland	Sululta
10	Desa Plants	22	7	Holland	Koka
11	EWF Flowers	16	5	Holland	Sebeta
12	Florensis Ethiopia	20	10.5	Holland	Koka
13	Freesia Flowers	15	3.2	Holland	Sululta
14	Herburg Rose	0	40	Holland	Ziway
15	Langano Lilly	25	11.9	Holland	Awassa
16	Linsen Rose	65	50.2	Holland	Holeta
17	Maranque Flowers	70	12	Holland	Awash
18	Marjinpar Flowers	37	15	Holland	Holeta
19	Olij Rose	20	13	Holland	D/zeit
20	Sher Ethiopia	500	216	Holland	Ziway
21	Ziway Rose	0	40	Holland	Ziway
22	Agri Flora	22	12	India	Holeta
23	Aliance Flower	19.2	9.3	India	Holeta
24	ASK Flower	39	3	India	D/brhan
25	Dream Flower	20	7.2	India	Holeta
26	Eden Rose	20	9	India	Sebeta
27	Ethiopian Meadows	105	47.8	India	Holeta
28	Euro Flora	22	7.3	India	Holeta
29	JJ Kotari	34	7.3	India	Sululta
30	Oromia Flowers	20	10.9	India	Holeta
31	Supra Flowers	20	10.8	India	Holeta
32	Surya Blossom	366	64	India	Sebeta

S. No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
33	Joy Tech	40	29.5	Israel	D/zeit
34	Roshanara Roses	30	11	Israel	D/zeit
35	Sheba Flower	20	14	Israel	Sebeta
36	Shecter Yosuf	20	2	Israel	Holeta
37	Sprit Flower	24	13.7	Israel	D/zeit
38	Ethiopian Magical Flower	26	20	Israel & Holland	Sendafa
39	Giovani Alfano	46	9	Italy	Bahirdar
40	Ethio Agri-ceft Bahridar	35	0	Saudi Arab	Bahirdar
41	Ethio Dream	22	10.7	Saudi Arab	Holeta
42	Ethio-Agri-ceft	29	13.5	Saudi Arab	Holeta
43	Evergreen	20	5.7	Saudi Arab	D/zeit
44	Hussein Alisaid	35.7	6	Saudi Arab	Holeta
45	Kaf Flower	17	5	Saudi Arab	Holeta
46	Golden Rose	42	22	UK	Sebeta
47	Joshiwa Flower	20	6	USA	Holeta
		2,228.9	**946.5**		

Annex 5- Flower Companies, Joint Venture (Operational in June 2011)

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Ownership	Cluster
1	Bueti Flower	18	12	Joint Venture	Sebeta
2	Continental Agro Industry	25	7.5	Joint Venture/Russia	Holeta
3	Ethiopassion Agro	20	10	Joint Venture	Sebeta
4	Holta Rose	21	13	Joint Venture	Holeta
5	Lafto Rose	37	22.5	Joint Venture	Sebeta
6	Omini Blosom	20	15	Joint Venture/Israel	D/zeit
7	Tal Flower	20	16	Joint Venture/Israel	Sebeta
8	Tana Flora	87	10	Joint Venture	Bahirdar
		248	**106**		

Annex 6- Annual Export Volume and Value of Domestic Owned Flower Companies

(Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Quantity (Stems)	Export Value USD	Average price per stem for the year (USD)
1	A flower	118	11	851520	92562.68001	0.108702884
2	Arsi Flowers	12	8.2	0	0	0
3	Awassa Greenwood	100	11	92560	9304.914277	0.10052846
4	Bukito Agro Industry	25	5	7402883	934912.7103	0.126290353
5	Dire Bicolor	25	7.4	0	0	0
6	Dre-Highland	28	7.6	8424470	1135113.325	0.134740028
7	Dugda Floriculture	36	22	20017026	2752019.516	0.137483936
8	Enyi Ethio Rose Addis	15	15	0	0	0
9	Enyi Ethio Rose Awash	26	13	21227578	2953532.783	0.139136588
10	ET Highland	20	12.6	17347392	2163897.486	0.124739067
11	Eyasu Sirak	10	6.4	2231840	368771.1636	0.1652319
12	FIYORI Ethiopia	28	3.3	1146920	193363.4763	0.168593691
13	Flower Ama	19	6.2	2564390	295668.3157	0.115297718
14	Friendship Flower	25	9	10186360	1390166.236	0.136473307
15	Joe Flower	10	5.1	3462000	472380.3044	0.136447228
16	Minaye Flower	20	13.6	18955845	2590584.259	0.13666414
17	Rainbow Colors	43	5.5	6217760	852964.6419	0.137181982
18	Rose Ethiopia	23	11.6	5512850	909351.4194	0.164951236
19	Saron Rose	20	10	3105264	406551.5166	0.130923334
20	Selam Flower	17	5.2	1406810	193298.9478	0.137402313
21	Super Arsity	40	14.5	1470920	162409.2707	0.110413395
22	Tinaw Flower	20	13.8	13323250	1834713.22	0.137707633
23	Top Flowers	23	10	2913560	321411.7397	0.110315813
24	Yassin Legesse	31	14.3	11959514	1317563.287	0.110168631
25	Zagwe Flower	22	8	4742520	651499.951	0.137374213
26	Zefinowel Flower	70	0	0	0	0
27	ZK Flower	17	7.4	6057315	821871.8994	0.135682542
		843	**256.7**	**170,620,547**	**22,823,913.06**	0.133770015

Annex 7- Annual Export Volume and Value of Foreign Owned Flower Companies

(Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

S. No	Company Name	Total Land Holding (ha)	Developed till June 2011	Export Volume	Export Value USD	Average price per stem for the year UDD
1	Abysinia Flowers	31	17	8059000	1139771.585	0.141428414
2	Agri Flora	22	12	4697903	567396.2519	0.120776494
3	Aliance Flower	19.2	9.3	4085426	571900.0109	0.139985404
4	AQ Rose	0	40	96499448	11946977.55	0.123803584
5	ASK Flower	39	3	57090	6337.79796	0.111014152
6	Blen Flower	20	8	11500916	1172685.065	0.101964493
7	Braam Flower	0	10	13424149	2445243.662	0.182152601
8	Derba Flowers	40	23	19463234	2520734.684	0.129512633
9	Desa Plants	22	7	19879995	1761314.016	0.088597307
10	Dream Flower	20	7.2	2433670	358074.4166	0.147133513
11	Eden Rose	20	9	106770	12812.39747	0.119999976
12	Ethio Agri-ceft Bahridar	35	0	0	0	0
13	Ethio Dream	22	10.7	6544520	1018922.036	0.155690874
14	Ethio-Agri-ceft	29	13.5	2943080	351960.8972	0.119589307
15	Ethiopian Cuttings	91	18	44059304	2924251.451	0.066370804
16	Ethiopian Magical Flower	26	20	8538770	1172238.468	0.13728423
17	Ethiopian Meadows	105	47.8	28556627	4127715.254	0.144544916
18	Euro Flora	22	7.3	2833751	339698.1377	0.119875789
19	Evergreen	20	5.7	991200	118020.7852	0.119068589
20	EWF Flowers	16	5	6251590	143698.9756	0.022985988
21	Florensis Ethiopia	20	10.5	62420831	2480963.784	0.039745767
22	Freesia Flowers	15	3.2	3768825	472414.0204	0.125347826
23	Galica Flower	20	8	4133922	667385.7925	0.161441312
24	Giovani Alfano	46	9	3563117	489070.6232	0.13725921
25	Golden Rose	42	22	2902560	404989.0461	0.139528225
26	Herburg Rose	0	40	92537885	10872488.35	0.117492294
27	Hussein Alisaid	35.7	6	2180164	261319.492	0.119862309
28	JJ Kotari	34	7.3	2194205	354611.4849	0.161612741
29	Joshiwa Flower	20	6	1542200	184819.3562	0.119841367
30	Joy Tech	40	29.5	17359311	2344331.356	0.135047489

S. No	Company Name	Total Land Holding (ha)	Developed till June 2011	Export Volume	Export Value USD	Average price per stem for the year UDD
31	Kaf Flower	17	5	746860	89271.1877	0.119528677
32	Langano Lilly	25	11.9	5763450	2345512.669	0.406963306
33	Linsen Rose	65	50.2	63342269	9129968.508	0.144137061
34	Maranque Flowers	70	12	255208190	4048822.454	0.015864783
35	Marjinpar Flowers	37	15	3888615	769234.8065	0.197817168
36	Olij Rose	20	13	15168378	2256573.238	0.148768262
37	Oromia Flowers	20	10.9	3340590	466320.3483	0.139592212
38	Red Fox	104	39	129987364	9148424.566	0.070379338
39	Roshanara Roses	30	11	10755516	1476201.998	0.137250691
40	Sheba Flower	20	14	9628210	1351362.884	0.140354529
41	Shecter Yosuf	20	2	604880	86633.78594	0.143225
42	Sher Ethiopia	500	216	455564377	46545188.42	0.102170386
43	Sprit Flower	24	13.7	5528475	769357.1953	0.139162643
44	Supra Flowers	20	10.8	8002310	1312716.26	0.164042165
45	Surya Blossom	366	64	7958384	1115129.167	0.14012005
46	Yalkoneah Flowers	19	3	1779550	232872.4812	0.130860319
47	Ziway Rose	0	40	88896838	10090956.4	0.113513108
		2,228.9	**946.5**	**1,539,693,719**	**142,466,693.1**	0.092529242

Annex 8- Annual Export Volume and Value of Joint Venture Flower Companies

(Fiscal Year: 2003 Ethiopian Calendar, i.e. 8 July 2010- 7 July 2011)

No	Company Name	Total Land Holding (ha)	Developed till June 2011	Export Volume	Export Value USD	Average price per stem for the year, USD
1	Bueti Flower	18	12	916084	102204.2616	0.111566474
2	Continental Agro Industry	25	7.5	0	0	0
3	Ethiopassion Agro	20	10	6393410	798332.1552	0.124867974
4	Holta Rose	21	13	5946428	848490.8898	0.142689172
5	Lafto Rose	37	22.5	12446256	2381002.483	0.191302708
6	Omini Blosom	20	15	5264800	906224.2895	0.172128911
7	Tal Flower	20	16	6402780	847225.812	0.132321556
8	Tana Flora	87	10	0	0	0
		248	**106**	**37,369,758**	**5,883,479.891**	**0.157439604**

Annex 9- Summary of Tables 6, 7 & 8

Summary	Quantity (Stems)	Export Value USD	Average price per stem for the year
Domestic	170,620,547	22,823,913	0.133770015
Foreign	1,539,693,719	142,466,693	0.092529242
Joint Venture	37,369,758	5,883,480	0.157439604
Total	**1,747,684,024**	**171,174,086**	0.097943383